American journal of
psychiatry
v.69,no.2(1913)
3

VOL. LXIX No. 3

RC
321
A52
v.69
no. 3
cop. 2

THE AMERICAN JOURNAL OF INSANITY

UNDER THE AUSPICES OF
THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION

EDITORS
Henry M. Hurd, M. D. G. Alder Blumer, M. D.
Edward N. Brush, M. D. J. Montgomery Mosher, M. D.
Charles K. Clarke, M. D.

STORAGE

BALTIMORE
THE JOHNS HOPKINS PRESS
JANUARY, 1913

398717

EDINBURGH
JOHN F. MACKENZIE
11 Teviot Place

Entered as second-class matter July 31, 1911, at the postoffice at Baltimore, Maryland, under the Act of March 3, 1879.

I. Three-Quarters of a Century of Institutional Care of the Insane in the United States. *Henry M. Hurd* 469

II. Occupation for the Insane. *C. Floyd Haviland* 483

III. The Relation of Certain Psychoses to the Neuroses. *Chester L. Carlisle* 497

IV. Some Psychological Observations in the Insane. *Max E. Witte* 511

V. The Legitimate Use of Psychic Influences in the Treatment of the Sick. *Henry C. Eyman* 521

VI. The Role of the Nervous System as Affecting the Symptomatology of Disease, and the Influence of Disturbance of its Functions on Morbidity. *H. A. Tomlinson* 531

VII. The Nature of Metastatic Tumors of the Thyroid. *Adolf Meyer* 543

VIII. Report of a Case of Pellagra in Maine with Remarks upon Recent Work on the Etiology of the Disease. *Henry W. Miller* 551

IX. Analysis of Psychosexual Anæsthesia in a Case of Psychopathic Personality. *Morris J. Karpos* 559

X. The Jury Law for Commitment of the Insane in Illinois (1867-1893) and Mrs. E. P. W. Packard, its Author, also Later Developments in Lunacy Legislation in Illinois. *Richard Dewey* 571

XI. A Study of Heredity in Epilepsy. *Everett Flood and Marion Collins* 585

XII. A Study of the Forms of Mental Disease in Cases Showing no Gross Lesions in the Brain at Autopsy. *C. G. McGaffin* 605

XIII. Treatment of the Insane in British Columbia. *C. E. Doherty* 609

XIV. Insanity among the Indians. *H. R. Hummer* 615

XV. Ocular Symptoms in General Paralysis of the Insane. *Howard T. Child* 625

XVI. Notes and Comment:
Mental Healing in Fact and Fiction—Patients with Symptoms of Insanity who are not Insane—The Verdict in the Case of John Schrank—Annual Meeting of the American Medico-Psychological Association 631

XVII. Book Reviews:
Practical Physiological Chemistry, by Philip B. Hawk, M. S., Ph. D., etc., etc Fourth Edition Revised and Enlarged, Philadelphia; P. Blakiston's Son & Co., 1912. Manisch-Depressives und Periodisches Irresein als erscheinungform der Katatonie. Eine Monographie von Dr. Med. Maurycy Urstein, Warschau. Berlin und Wien; Urban & Schwarzenberg 641

Complete Laundry Plants Installed

DRAWINGS AND ESTIMATES
UPON REQUEST.

The largest manufacturers and dealers in laundry machinery and appliances in the world. More of our equipment in use than all other makes combined.

THE AMERICAN LAUNDRY MACHINERY CO.

EASTERN DIVISION
132-138 W. 27th St.
NEW YORK

WESTERN DIVISION
208 W. Monroe Street
CHICAGO

SOUTHERN DIVISION
Norwood Station
CINCINNATI

Stamped Steel Ceiling

QUADRUPLE
LOCK-JOINT
CONSTRUCTION

Appropriate for Buildings of Every Description

1000
EXCLUSIVE DESIGNS

Apply over joists or old plastering

FOR PANELED
FIREPROOF DOORS

ADDRESS DEPT. B

Catalogue upon request

The Kinnear & Gager Mfg. Co.
COLUMBUS, OHIO

Fellows' Syrup of Hypophosphites

Its distinctive characteristics are:

Uniformity of Composition,
Freedom from Acid reaction,
Stability in vacuo,
The property of retaining strychnine in solution for an indefinite period, and
Pre-eminence in arresting disease.

Reject < **Cheap and Inefficient Substitutes Preparations "Just as Good."**

..Quilted Mattress Pads..

Nonegenuine without trade-mark

An acknowledged luxury for the bed, and endorsed by physicians for the nursery. These Pads are made of bleached white muslin, both sides quilted, with white wadding of the best grade between. Keeps bed clean and sweet, mattress in a sanitary condition. Restful to sleep on. Saves labor and money. Easily washed.

Especially Adapted for Hospitals, Asylums, Sanitariums, etc.

Examine closely stitching on our pads and see that sizes correspond with size on ticket. Seconds, damaged or "just as good" pads are sold under other labels. Insist on Excelsior Quilted Mattress Pads.

See that our Trade-Mark is on each piece of goods you buy.

THE EXCELSIOR QUILTING CO.

15 LAIGHT STREET, NEW YORK CITY.

VOLUME LXIX JANUARY, 1913 No. 3

AMERICAN JOURNAL OF INSANITY

THREE-QUARTERS OF A CENTURY OF INSTITUTIONAL CARE OF THE INSANE IN THE UNITED STATES.*

BY DR. HENRY M. HURD,
Baltimore, Md.

The history of the care of the insane for the last century or more shows that four distinct periods exist in its development.

FIRST. *The Period of Neglect.*—The period of neglect existed from the settlement of the country down practically to the opening of the Utica State Hospital in 1843. It is true that sporadic efforts were made in certain communities to provide for a few of the more urgent cases of insanity, but there was no concerted or sagacious plan of action or any conception of the magnitude of the undertaking.

The first effort as has often been pointed out was made in Philadelphia in connection with the Pennsylvania Hospital for the Insane in 1754. In the original appeal for funds to provide for building the Pennsylvania Hospital the express intention was to provide a place for insane people. This term insane, however, referred at this time more especially to such persons as were violent and required custody to prevent them from doing injurious acts toward their neighbors or themselves.

The care thought of was almost wholly custodial and for a long time, and probably until the time of Rush, little was attempted in the way of medical treatment.

Such patients were provided for in cells in the basement of the hospital. In the excellent history of the Pennsylvania Hospital, edited by the late Dr. Morton, interesting details are given of the character and conduct of these patients, as described in the note-

*Read at the sixty-eighth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., May 28-31, 1912.

books of a trustee. I regret to say that it was customary to exhibit them to the public on certain days for a trifling pecuniary consideration. It is evident as the history of the hospital is carefully scanned that the arrangement was not a satisfactory one and that general hospital patients and insane patients mutually rejoiced when the transfer of the insane was made to the new hospital in West Philadelphia in 1841.

The institution at Williamsburg, Virginia, seems to have been the first hospital in the United States designed exclusively for the care of the insane. It was provided for by the House of Burgesses in 1769 and opened in 1773. It was under the charge of a keeper, who was made responsible for its internal and financial management and was evidently largely a house of detention. The medical care was confided to a physician who visited the institution but did not have the responsibility of its management. It seems to have received pay patients and was not in any sense an institution for the neglected or destitute insane.

Next in order of erection was the department for the insane connected with the New York Hospital, afterwards known as the Bloomingdale Asylum and now as the Bloomingdale Hospital. In the New York Hospital as in the Pennsylvania Hospital an effort was made at first to provide for patients in connection with the general hospital, but so many difficulties were experienced that in the year 1809 it was thought advisable to build a separate institution in the upper part of the city. Aid was sought from the legislature and granted for that purpose. This separate institution subsequently developed into the Bloomingdale Asylum and later became the Bloomingdale Hospital now at White Plains. In this institution little could be done for the care of the indigent insane because the cost of treatment was necessarily so high as to render county officials disinclined to make contracts with it for the care of their insane.

The McLean Hospital, founded in 1818, was also a department of the Massachusetts General Hospital, but through the liberality of John McLean was housed upon an entirely separate estate and had an independent existence.

About the year 1817, stimulated by the success of the York Retreat in England under the care of the Tukes, the members of the Society of Friends established and located the Friends Asy-

lum at Frankford, a suburb of Philadelphia, which did excellent work in a quiet, unostentatious way, principally for members of the religious Society of Friends, for many years.

The institution which exerted the most influence in New England and undoubtedly fostered the establishment of several institutions for the insane of a semi-private class was the Hartford Retreat originally built in consequence of a movement initiated by the Connecticut State Medical Society, the members of which furnished the funds. It fortunately came under the guidance of Dr. Eli Todd who became the first superintendent and seems to have had a general interest in the better treatment of the insane throughout the New England States. This institution received private patients but also had an arrangement with the towns of Connecticut and received indigent patients at a rate of payment less than the actual cost of treatment.

The work done by these various institutions was at first tentative and in many ways incomplete from our present view point, but the institutions undoubtedly did much to stimulate a greater interest in the welfare of the insane throughout the whole country.

The next institution to be erected was the South Carolina Hospital at Columbia, built by the state after a long and determined effort on the part of two philanthropists who were not medical men. The institution was designed for all classes of patients but seems to have been used largely for patients who paid their expenses or whose expenses were paid by the counties. It was not a state institution as we understand it to-day.

The hospital at Columbia grew out of the success of the institution at Williamsburg, while the New York Hospital and McLean Hospital were largely the result of the good work inaugurated in the Pennsylvania Hospital.

The Friends Asylum and the Hartford Retreat were both important factors in the erection and organization of the Utica State Hospital on broad lines. The commission charged with its construction and later with the duty of devising rules for its organization and management, although it visited the institutions for the insane then existing in this country, based its recommendations largely upon the experience of the Friends Asylum and the Hartford Retreat.

The first superintendent, Amariah Brigham, also received his training under Dr. Todd at the Hartford Retreat and came to

Utica fully equipped for the constructive work which he afterwards did there.

There is little doubt that the influence of the Utica State Hospital did more to develop our present system of state care than any other single agency. Added to this may be mentioned the work of Miss Dix, who in season and out of season visited poor-houses, jails and receptacles in many states and originated and continued an agitation which resulted in the erection of institutions for the insane in New Jersey, Pennsylvania, Maryland, North Carolina, Alabama, Mississippi, Tennessee, Louisiana, Illinois, and Texas. She was also consulted about the erection of institutions in many other states and her influence and example were of great service to incipient institutions in pioneer states.

SECOND. *The second period in the history of the institutional care of the insane may be styled the Era of Awakening.*—It is to be regretted that owing to pioneer conditions it was not practicable to develop the care of the insane in America in a natural way, and thus evolve a system which was adapted to the needs of the country. Unfortunately the insane and dependent classes became early identified with each other. In many eastern states the only insane cared for were those already paupers and frequently, as in New Hampshire and Connecticut, were bid off each year by persons who were prepared to assume charge of them at the lowest figure. It consequently happened that most of those who were able to look after themselves were allowed to wander about through the country exposed to hardships, danger and ill-treatment. If they were feeble or helpless there were placed in such poor and unsuitable homes as would naturally be furnished to them by persons who were willing to eke out a small income by the care of an insane person in the family. If they were violent and destructive they were cared for in cages or pens in county houses or were placed in jail. No systematic effort was made to assume care of any of these patients at a stage of their disease when they were in a condition to receive benefit from treatment; they were neglected until incurable and when incurable were taken care of in the cheapest manner possible without regard to their comfort and well being. This condition of affairs existed throughout the United States and no state unfortunately can claim the monopoly of ill-treating the insane. There may be said in excuse

for such hard conditions that the majority of the inhabitants of the United States, both in New England and in the newer portions, were struggling for a living and needed all the resources which they could gather together to care for themselves, and to develop new settlements and homes in the dense wildernesses.

The era of awakening came slowly in the United States. In Connecticut, as already stated, the State Medical Society played an important part in arousing the benevolent of the state to action to provide for the insane. The building of the Hartford Retreat directly influenced the establishment and building of the institution at Brattleboro, Vt.; it also had much to do with the establishment of the state asylum under Dr. Woodward at Worcester, and to a less degree with the establishment of the Boston City Hospital for the Insane. The work in New Hampshire was connected closely with the establishment of the Brattleboro Retreat. It is interesting and to a certain degree humiliating to read the story of the struggle in New Hampshire prior to the erection of the New Hampshire State Hospital. Philanthropists viewed with distress the neglected condition of the insane in county houses and in families where the pauper insane had been "bid off" to the lowest bidder. Petitions poured in upon the legislature for the establishment of a state hospital. Physicians delivered addresses before the legislature, philanthropists urged the measure session by session and governors were most importunate in their annual messages and yet for eleven years the agitation continued before an institution was established at Concord. Even when established it was not a state institution, although it received state aid. Had it not been for the benefactions of benevolent friends it is doubtful whether it could have obtained the degree of usefulness which afterward came to it. The slow growth of public sentiment in the state is shown by the fact that the past decade has witnessed the conclusion of a movement begun in New Hampshire more than 70 years ago to provide state care for the indigent insane.

The era of awakening came like a popular wave in various states and resulted in the establishment of institutions in nearly all the eastern states, as well as in what are now known as the central states.

As previously intimated the organization of the Utica State Hospital had probably as much to do with the progress of the move-

ment as any other single agency. Here we had an institution built by a state on an extensive and liberal scale, officered by meritorious appointment of officers, with definite laws for the admission and discharge of patients. The definite object of the institution was to take the insane out of alms-houses and to provide for them in a well ordered hospital. Here also for the first time under state charge was provided some accommodation for private patients of the semi-indigent class. The act under which the Utica Hospital was organized has been a model for similar institutions throughout the United States and has undoubtedly proven an important agency in developing state care.

THIRD. *The Period of State Care of the Insane.*—About the year 1850 state provision for the insane in the United States began to be considered a matter of state duty. This does not mean that all the states were provided with institutions for the insane but merely that the attention of the public was directed to the necessity for state care, and one state after another began to erect a single institution for the insane. It must be confessed that the conceptions of philanthropists, physicians and legislatures as to the extent of the problem of providing for the insane and the best way to meet it, were vague and the measures adopted proved to be in every instance deplorably inadequate. It seemed to be generally thought that a single institution in each state would suffice to take care of all the insane. This theory was based upon an idea which had lodged firmly in the public mind that prompt treatment would cure nearly all persons who suffered from mental trouble. The conception of insanity at that date was largely derived from its development in excitement, and many excellent men believed that when the excited patient became self-controlled he was cured. We now know that in many instances the apparent cure was but a remission in the disease and that many of the patients suffered from forms of incurable disease not then generally recognized. The cure was more apparent than real. We know also that the wear and tear of existence in cities and older settled portions of the country vastly increased the conditions favorable to the development of mental disease. The influence of the immigration of degenerates and of persons who found themselves unsuited to the environment of a new country, under changed social conditions and exposed to unaccustomed hardships and pri-

vations, was also very imperfectly appreciated or not taken into account. These and other influences made demands upon institutions for the insane far beyond the expectations of the sanguine men who established in most of the states a single institution under the impression that it would care for the insane of the state for an indefinite period.

The experience of New York well illustrates the difficulties which were speedily encountered. The Utica State Hospital was located originally near to the geographical center of the state with the expectation that all the patients in the state would be sent there for treatment. After a time it was found that the institution was filled and that the only way to secure any room for acute cases was to encourage county officials to remove their patients to alms-houses in order that preference might be given to cases of acute disease. This inevitably brought about the erection of institutions for the chronic insane in almost every county in the state. and during the period between 1850 and 1865 the alms-houses were crowded with chronic cases, whose condition became a reproach to the state and a blot upon its civilization.

Another difficulty arose from the theory that institutions should remain small—a theory shared by their medical officers because of an imperfect realization of the problem, due probably to the fact that they had been educated in small institutions where the work of the superintendent was personal with every patient. An attempt was consequently made to limit the size of every institution to the end that the superintendent might personally direct the whole treatment of every patient. Under the circumstances little effort was made to appoint or to develop assistant medical officers and the superintendent became superintendent, physician, steward and general utility man. This necessarily limited the size of the institution and all efforts to increase its capacity were contested by the medical officers.

It must be confessed also that the scheme of building which was approved by the majority of superintendents and set forth in the famous "propositions" was too rigid and did not permit of proper expansion. This is well illustrated by the fact that these stern, unyielding provisions which for many years were regarded as "a law of the Medes and Persians" were gradually modified by force of circumstances and finally abrogated altogether. The

intentions of the framers were honorable, praise-worthy and productive of good, but as absolute rules to be followed for all time they were foredoomed to failure. The great wave of insanity was submerging the country and no propositions or resolutions however carefully framed or unanimously adopted could arrest the rising tide. The system also of partial state and county support for patients in state institutions upon the whole worked badly and tended to encourage the erection of county institutions because county boards of supervisors and county boards of superintendents of the poor were made partners in the work and judges as to whether patients should be treated at home or sent to a state institution. This encouraged the county officers to build county institutions in the interests of a false economy and to remove their patients to them.

As previously stated the difficulties which were encountered in providing for cases of chronic disease without blocking the whole hospital system gave rise to frightful barbarities in county almshouses and in New York resulted in the establishment of institutions for the chronic insane at Willard and Binghamton. This movement, although temporary in its character, accomplished great good for the time being and called the attention of all good citizens to the absolute necessity of state care for the insane of the state.

The hospitals at Willard and Binghamton eventually became centers for the care of all classes of the insane in the districts surrounding them when New York adopted state care.

The era of awakening then was an era of experimental effort, involving much groping in the dark and much waste of money. Many mistakes were committed, but the outcome of the movement was state care as a policy throughout the United States. There are still a few states where state care has not been fully established, but the trend of public sentiment is altogether in this direction and another decade will see it inaugurated in fact as well as in name throughout the country.

FOURTH. *The Period of Scientific Care.*—Provision for the insane in the United States has now reached the era of scientific care.

This looks to the study of mental diseases, their causes and development, and the study of the local conditions and surroundings

of insane patients to ascertain the genesis of the disease and the best method of preventing its development. It also looks to the after-care of patients and the study of social conditions in order to promise to patients discharged from institutions a reasonable prospect that a fresh attack of mental disease may be prevented by proper home surroundings.

In the study of the causes of insanity new and special attention is now given to syphilis as an exciting cause of many organic brain affections. The "Wassermann reaction" has cleared up much obscurity in the development of general paresis. The same is true of the latest knowledge of the relations of internal secretion to bodily metabolism. It is now evident that some forms of mental disease depend upon a hyper-secretion or a diminished secretion of the thyroid gland, and surgical interference or proper medication are indicated to correct the thyroid disorder. The same is true but to a limited extent of mental disease due to brain tumors or tumors connected with the pineal gland. Such attempts to correct organic brain troubles by surgery or to improve internal secretions by proper medication are in their infancy, but enough has already been done to point the way to the hopeful treatment of several hitherto incurable affections.

It is now strongly impressed upon the mind of the profession that to cope with insanity in a given locality there must be a close relation between the institution and the region around about it. Also that patients should be encouraged to come voluntarily to institutions in the incipient stages of disease and that convalescent patients when able to leave the institution should remain under its supervision in order that causes of disease which precipitated the first attack may be removed before they become operative; and wise counsel may be given throughout the period of convalescence.

Another equally essential part of the modern treatment of the insane consists in the adoption of "non-restraint methods" of treatment. These methods, as Dr. C. W. Page in his admirable little book has recently pointed out, do not consist alone in the abolition of mechanical restraint, but rather in the substitution of methods of care and treatment which are not irritative and which secure the confidence of the patient from the beginning and his co-operation without exciting animosity and violent outbursts, such as are inevitably connected with the use of mechanical restraint. Non-

restraint methods mean sympathy, kindness, tactful guidance, diversion, employment and a kindly appreciation on the part of medical officers and nurses of the distress and discomfort of persons suffering from insanity. Without these essentials any non-restraint which consists merely in removing restraining apparatus is a farce and is soon replaced by harshness and intimidation. The philosophy of non-restraint methods is now well understood and nurses are trained to care for the insane as sick people rather than as wayward persons who require repression and irritating control.

The consideration of these different eras leads to the work of the committee on the institutional care of the insane and its endeavor to obtain information about the development of care in each state. To this end the committee requests the assistance and co-operation of every superintendent. When it is borne in mind that at least 200 state, municipal and corporate institutions exist in the United States it is readily understood that no single man or no committee of men can collect the right material and write a proper history of individual institutions. There must be hearty and efficient co-operation on the part of every chief medical officer of every institution to help in the work.

In reply to many inquiries which have come to me and to make clear what the Committee on the History, etc., desires, I will say a few additional words.

Laws for the Commitment of the Insane in Every State.

It is interesting to notice that thus far in the history of provision for the insane in this country there has been a tendency to go from one extreme to another in matters of laws for the commitment of patients. The hospitals originally had no legal proceedings looking to the commitment of patients but depended upon the certificates of physicians as to the necessity of treatment and then followed the usual routine which would be required to admit a patient to any general hospital. Later largely or wholly because of the agitation which arose in some states by reason of complaints of half-cured patients that they had been deprived of liberty without " due process of law " (an agitation sometimes it must be confessed fostered by superintendents of institutions for the insane who desired to secure some legal protection from suits for false

imprisonment and illegal detention) acts were passed in a number of the states requiring that the admission of patients to institutions should be surrounded by legal formalities such as an opportunity to appear in court and sometimes even the arrest of the patient under a charge of insanity and his examination by a prosecuting attorney before a jury impaneled to determine the question of his sanity and his final commitment and transfer to the institution for the insane. This condition of things existed in Illinois for many years and it also exists in the State of Minnesota to-day, except that the two medical examiners required by law are called a " jury " and the examination before them is rather euphemistically called a " jury trial." Within the past five years this tendency is passing away and we now hear much about voluntary admission of patients to institutions. Some corporate institutions in fact now receive more than half of their patients without the formality of a commitment.

The committee desires to trace this process in every state and to be able to give a history of the movement which has culminated in the present remarkable facility with which patients can be placed in institutions for treatment.

The Criminal Insane.

It is also desirable that information should be given as to the attitude of each state toward the care of the criminal insane. Many states have wards in the state hospitals for the violent and criminal insane. Other states like New York, Michigan, Illinois have hospitals for the criminal insane, in order that criminals may not be brought into contact with patients in the usual state hospitals. There seems to be a general feeling that the association of the criminal insane with the ordinary insane is not desirable and not conducive to the happiness and comfort and restoration of either class. The committee desires to know as to this.

Detention Hospitals.

It seems equally desirable that the policy of each state as to a detention hospital should be carefully given. Some states have gone so far as to require every large city to have a detention hospital; others have taken the view that each state institution should have a detention hospital connected with it, and others have ar-

ranged for the organization and development of detention hospitals in connection with certain well endowed general hospitals as wards or departments.

It seems important that the committee should know accurately and fully what has been attempted in all states in this respect.

Hospitals for the Chronic Insane.

The movement to establish separate hospitals for the chronic insane was inaugurated in New York, by the opening of the Willard State Hospital and the conversion of the Binghamton State Hospital from an inebriate asylum to a hospital for the insane. A similar conversion took place in Minnesota, but in the latter case the inebriate hospital was converted into an institution for the treatment of acute cases. In Minnesota, however, two institutions have been built and set apart for the chronic insane, one at Hastings and the other at Anoka. Other states might be mentioned as having similar hospitals. It is evident, however, that the movement in the direction of separate hospitals for the chronic insane has spent its force and that the tendency at present is towards the creation of hospital districts surrounding every institution to the end that patients may be quickly transferred to the hospital and there receive whatever treatment their condition requires, whether they are acute or chronic cases. We wish to know the practice in every state.

After-Care of the Insane.

The scheme to district each state and to render admission to the hospital for the insane as easy and expeditious as possible brings also as a logical result the ultimate purpose to give efficient after-care to patients who are well enough to be discharged from the custody of the institution. It is evident to all who have to do with the discharge of convalescents that there is no certainty that these patients under the stress of unfavorable conditions of home life will maintain the degree of health which has been attained in the hospital. Wise philanthropists accordingly have come to the conclusion that systematic after-care under the direction of trained medical men, preferably clothed with the authority of the managing board of the hospital serving the district. With such a system of after-care when patients return home the pos-

sibilities of an unfavorable environment and a return to the hospital may be reduced to a minimum. The practice of the different states in this respect needs to be carefully compared, to the end that a complete account may be given of all that the states are doing or have done for the prevention of mental disease.

Architectural Changes and Improvements.

It is desirable that architectural changes, improvements and experiments should be carefully detailed. The committee desires to know what states are providing for the insane on the cottage plan; what states have detached buildings for the chronic insane; how far colonies have come into vogue and how far they are accomplishing the objects sought for by giving opportunities for labor to patients in good health who need active outlets for their energies. It is also desirable to know how many states have made hospital provision for acute cases and what number is still building institutions on the old monastic plan which obtained in this country 75 years ago.

Scientific Work.

It is most important that the scientific work of institutions throughout the United States should be carefully described. Every hospital which attempts it should give a detailed report of methods and results.

Biographies, Etc.

As stated in a previous paper, biographies of the pioneers in the work of erecting institutions or in stimulating an interest in the insane should be furnished, also of the medical men who had so much to do with the earlier development of the institutions.

In conclusion the chairman of the committee desires to express the earnest hope that the committee may receive from every member the fullest possible co-operation. The preparation of this history is your work and not the work of the committee. We have undertaken it under your direction, with great reluctance and some unjustifiable delays on our part. All the members of the committee now are thoroughly enlisted to push the history to a speedy conclusion. It must, however, require many months of close labor to secure the material and to collate and arrange it for the press.

OCCUPATION FOR THE INSANE.*

By C. FLOYD HAVILAND, M. D.,
Kings Park, L. I., N. Y.

It seems almost trite to discuss the therapeutic value of occupation for the insane, so thoroughly has practical experience demonstrated that it is the most powerful single means at our command in curative treatment, and that appreciation of this fact has not been confined to a recent period was pointed out by Dr. Pilgrim, of the Hudson River State Hospital, Poughkeepsie, N. Y., in discussing some years ago a paper read before a conference of New York state superintendents by Dr. Smith, of the Central Islip State Hospital, Central Islip, N. Y., on the subject of occupation for the insane. Dr. Pilgrim quoted Benjamin Rush, the pioneer American psychiatrist, showing that as early as 1798 the latter recognized occupation as of value in his work. Dr. Pilgrim likewise quoted various reports and records, showing that at intervals during succeeding years the subject has held the attention of those engaged in caring for the insane. But old as the subject is, it is only in recent years that industrial and educational work has assumed a proper relationship to other institutional activities, none of which can be regarded as more important.

In recognizing the fact it is well to consider the reasons underlying it. Dr. Meyer, Emeritus Director of the New York State Psychiatric Institute, illuminated the whole subject when he spoke of dementia præcox in terms of disorganized habits. These patients, forming the bulk of the chronic insane, require then, most of all, habit training which is the aim of all occupational re-education. The insane show a lessened or loss of capacity for normal adjustments and it is but simple logic which leads us to attempt to substitute for faculty reactions, of psychic disorganization, normal reactions, however simple, in the way of profitable activity. Idleness leads to introspection, whereas occupation demands attention directed upon outside matters; the insane loss of self-control must be, in a measure at least, overcome in securing creative activity. Use of the hands means at least an elementary

*Read at the sixty-eighth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., May 28-31, 1912.

OCCUPATION FOR THE INSANE.*

By C. FLOYD HAVILAND, M.D.,
Kings Park, L. I., N. Y.

It seems almost trite to discuss the therapeutic value of occupation for the insane, so thoroughly has practical experience demonstrated that it is the most powerful single means at our command in curative treatment, and that appreciation of this fact has not been confined to a recent period was pointed out by Dr. Pilgrim, of the Hudson River State Hospital, Poughkeepsie, N. Y., in discussing some years ago a paper read before a conference of New York state superintendents by Dr. Smith, of the Central Islip State Hospital, Central Islip, N. Y., on the subject of occupation for the insane. Dr. Pilgrim quoted Benjamin Rush, the pioneer American psychiatrist, showing that as early as 1798 the latter recognized occupation as of value in his work. Dr. Pilgrim likewise quoted various reports and records, showing that at intervals during succeeding years the subject has held the attention of those engaged in caring for the insane. But old as the subject is, it is only in recent years that industrial and educational work has assumed a proper relationship to other institutional activities, none of which can be regarded as more important.

In recognizing the fact it is well to consider the reasons underlying it. Dr. Meyer, Emeritus Director of the New York State Psychiatric Institute, illuminated the whole subject when he spoke of dementia præcox in terms of disorganized habits. These patients, forming the bulk of the chronic insane, require then, most of all, habit training which is the aim of all occupational re-education. The insane show a lessened or loss of capacity for normal adjustments and it is but simple logic which leads us to attempt to substitute for faculty reactions, of psychic disorganization, normal reactions, however simple, in the way of profitable activity. Idleness leads to introspection, whereas occupation demands attention directed upon outside matters; the insane loss of self-control must be, in a measure at least, overcome in securing creative activity. Use of the hands means at least an elementary

*Read at the sixty-eighth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., May 28-31, 1912.

activity of the mind, conversely, idle minds eventually follow idle hands and it is but a truism to repeat that unused function, psychic as well as material, becomes enfeebled.

In a way it is strange that the paramount importance of the subject has not stimulated us to more constant effort in this direction. Prisoners are no longer allowed to remain in idleness, and among defectives educational occupation is the great feature of their care. When the same attitude is universally assumed concerning the insane, where indeed the outlook is more hopeful, dealing as we do with defective capacity due to disease rather than to congenital lack, it does not seem a far fetched assumption to believe that thereby the vast numbers of chronic insane now in our hospitals may be reduced and those remaining become in a much greater degree partially self-supporting.

Insane patients in institutions have for many years assisted with the routine work, but such workers have been those who have worked willingly, while those forming the mass of chronic patients, the ones most in need of occupational training, have remained idle, and in many cases noisy and destructive, when by proper teaching, their abnormal activity could have been directed into productive channels. There is of course an economic as well as a therapeutic aspect to this work, and, while taken in the aggregate, the economic side is of great importance, yet that will care for itself if the therapeutic standpoint be sufficiently emphasized. Every idle patient taught to assume however small a niche in the hospital activity is to that extent less of a burden upon the community. One of our greatest difficulties, however, is to sufficiently emphasize the therapeutic standpoint and to make plain the fact that zeal in this direction is as truly medical as zeal in drug or hygienic treatment. We should appreciate that the daily routine of our patients' lives is not something apart, requiring merely casual supervision, but that everything done for a patient has a medical aspect. Our attitude should be sufficiently broad to eagerly seize every means whatsoever which promises help to the unfortunates under our care.

But apart from the usual routine work, we now find in most hospitals for the insane occupational classes, the basic purpose of which is re-education. In the Manhattan State Hospital, New York City, and Kings Park State Hospital, Kings Park, L. I., the

institutions with which I am most familiar, both kinds of work cover a wide range of activity, this being essential that it may be possible to fit the work to the patients' diminished capacity rather than vice versa. Only thus can we give the patient that sense of completion so often emphasized by Dr. Meyer and the value of which we have all experienced in the satisfaction felt when we have finally completed a task to which we have set ourselves. A sense of accomplishment is one of the greatest incentives to renewed effort with the insane as with the sane. Dr. Smith, in the paper already mentioned, emphasized the necessity of carefully and systematically grading occupation for insane patients, as regards both difficulty and attractiveness. From the practically mechanical picking of hair by a stupid dement to the production of artistic oil paintings is a far cry, but with many varying capacities many varying occupations are required, that a proper selection, one for the other, may be made, always of course under medical direction.

In beginning a process of re-education or training faculties by use, the means employed must be simple and direct and, so far as possible, stimulating and attractive. It should be begun as soon as the patient is physically able to co-operate and our efforts continued unremittingly. Beginning with the most elementary forms of activity in the more inactive cases it is essential to pass as soon as possible to creative work, always remembering that monotonous toil has a deadening effect and that therapeutic effort calls for occupation rather than heavy labor. Of course success does not always follow and we may then resort to calisthenics, folk dancing, etc., in an endeavor to excite interest. Physical movement to music may be the beginning of later purposeful occupation and indeed the two may often well go hand in hand. All occupation should, as soon as possible, have a definite object for the patient, and, as for calisthenics, drills, etc., they will be of more value if used as a means to an end, as for the purpose of preparing for an occasional entertainment.

Entertainments in which patients participate form a valuable method of training and are occasionally the means of first arousing the much desired interest, patients sometimes having been thus induced to work when other means have failed. Recreation should always attend occupation whether in classes or in routine hospital

work. Too often is it the case that the tea parties, picnics, etc., enjoyed by our patients are attended by the convalescent and class patients to the exclusion of the so-called chronic workers who are usually employed when such affairs are held. Never should work be an end in itself nor should it assume such prominence as to deprive thereby patients of pleasure. No matter if employed in routine hospital work slight readjustment will render it unnecessary to seriously disturb the essential routine of the hospital activity. Many chronic patients, who have had no special entertainment for years, show an almost pathetic gratitude at some simple gift or amusement, so grossly out of proportion is it, judged by normal standards. If philanthropists knew the actual situation, through no other channels could they produce an equal amount of human happiness with less expenditure.

The attitude of those directing occupation is all important. The harsh dictatorial manner will never yield desired results. The patients in a way only reflect their caretakers. The classical, wild, raving maniac was a product of cruel methods of restraint and authority exercised through force. Happily we can now surprise the average layman by the great rarity of such cases and the comparative ease with which such conditions are controlled by modern methods of hydrotherapy, gentle tact, etc., replacing brutal strength. In a like manner patients will reflect their instructors' zeal and earnestness in occupational effort. The personal equation of the instructor, therefore, becomes most important and indeed, in any given instance, the success or failure of special effort in this line will depend more upon the character of the instructor than upon the character of the patients. It is much easier for an attendant to say that a dull and inactive patient will not work than it is to persist day by day, endeavoring to induce such a patient to perform a simple task. I well remember about ten years ago when 500 non-working patients were transferred from Blackwell's Island to Manhattan State Hospital, Ward's Island, and a transfer of working patients from such hospital to other hospitals was in turn made to provide room for them, the calamity howlers among the attendants were numerous and vociferous; the good workers having all been sent away, the ordinary work of the hospital could never be accomplished. While at first some difficulty was encountered, yet necessity so stimulated effort that

within a comparatively short time where no workers had existed they had been produced. This incident has remained in my mind as proof that occupational instruction is capable of almost indefinite extension, provided only, sufficient, capable and tactful individuals can be secured to carry it on. Instructors are required who will take an active personal interest in each individual case, guiding the patient through the process of re-education as the teacher guides the child.

Many practical difficulties are of course encountered, but they are invariably magnified by the poor instructor and minimized by the good one. Many patients who have absolutely refused or have been incapable of co-operation have, after patient and tactful perseverance, reacted to the efforts in their behalf. Sometimes there is a definite reason for the patient's lack of co-operation which a skilled instructor will discover and remove. The question has been discussed whether patients should be given work with which they were formerly familiar or work new to them. Experience would seem to show, however, that it is unwise to generalize in this regard, some being first aroused by familiar pursuits and others again first responding to novelties. Results may be obtained in competing with a patient's former work or in competing with fellow patients. Minor products of occupational classes may be used as favors and prizes in competitive games and in table and ward decorations for special occasions, the producer of the work always receiving due credit. It is apparent, therefore, that the question of arousing primary interest must be determined in each case by the individual reaction. At Kings Park some of the most appreciative as well as the most skilled workers are male patients employed out of doors. They find contentment and an added incentive to continued work in an allowance of 50 cents per week from the amusement fund, which small sum amply provides for such luxuries as they may desire and which they purchase at the store of the Employees' Club. These patients live in an open door cottage, they have a parole of the grounds and form indeed a mild aristocracy among the patients, yet they form a superior class based solely upon conduct, thus furnishing a definite goal to stimulate effort and self-control. The fact that never have we had such a patient abuse the privileges extended shows how highly the honor is valued.

Having emphasized the necessity of skilled specialists in this work it may well be asked how is it practical to carry on such work under present conditions and without prohibitive expense. In this connection our experience at the Kings Park State Hospital may prove interesting. Some time since we had a basket class for men and one for women under the charge, respectively, of an Indian and his wife, who themselves were expert basket-makers. Theoretically they should have been most efficient, but practically much difficulty was experienced with them as teachers of their handicraft. When they finally refused to teach a special line of work because it was "an Indian secret," a change was thought to be necessary. An employee in one of the shops, who had previously relieved the Indian and had showed much interest in the work, was appointed to the latter's position and largely by his own efforts he has made himself much more efficient than his predecessor. In a like manner an ordinary ward attendant, who had done substitute duty with the woman's basket class, soon proved her capability, and in brief, with the exception of a physical instructress who conducts our classes in calisthenics, folk-dancing, etc., our instructors have all been developed from the regular force. Through the co-operation of the State Commission in Lunacy several positions as special attendants have been allowed for this work and, it being known that promotion depends upon competency, we have succeeded in developing considerable rivalry, not only among the members but between the instructors of the different classes.

The importance of grading occupational work, as mentioned, being early recognized, we sought a supervising head who could co-ordinate all the varied activities in our industrial and educational classes. We found that our superintendent of nurses had shown great interest in the work and without extra compensation she readily agreed to assume supervision of it. With the co-operation again of the Commission she was enabled to take a summer course, relating to handicraft and occupational activity, in the New York School of Philanthropy. She rapidly developed unusual zeal and efficiency, and through her efforts we have been able to constantly extend the scope of our work until now she has general supervision over four physical culture classes, a fancy work class, four basketry classes, a class in artificial flower-

making, one in both oil and water color painting, one in stenciling, two in pierced brass work, a day school and a certain amount of work in book-binding and rug-weaving, and the fact, as stated, that the individual instructors in all the above classes, with a single exception, were drawn from our ordinary working force proves that, with the inculcation of a proper spirit of zeal and effort, conscientious and capable instructors can be produced. In a measure this seems to have been aided by the fact that in all instances the regular instructors are expected to teach other employees as well as the patients. Not only must there be competent reliefs provided in case of absence, but regular ward attendants and nurses are expected to develop this work, so far as possible, upon the wards in addition to the class work.

While at Kings Park we thus have our occupational classes fairly well systematized and co-ordinated, yet, as in most hospitals, the various outside working parties, coming as they do from various services, have not been so brought together. Dr. Macy, superintendent, has planned, however, to thoroughly co-ordinate and systematize this part of our hospital activity. It is proposed to put all patients engaged in routine hospital work under the general supervision of an assistant physician, who, being relieved of a portion of his other duties, will be able to devote sufficient time to further develop and co-ordinate such occupations. And if the results meet with our anticipation it is proposed to eventually ask the Lunacy Commission for one or two special attendants to act as instructors in this department, so that our entire outdoor working department may be put upon an educational basis.

Referring again to our occupational classes it may be said that, aside from salaries and materials purchased for the fancy work class, the work is carried on without expense to the state, as the sale of finished products furnishes a fund which can be constantly turned over to purchase new supplies. A patient, a carpenter by trade, was induced to build a large show-case which, standing at the main entrance to the general office, is seen by all visitors and here there being displayed fancy work, paintings, drawings, baskets, artificial flowers, brass work, etc., so many sales are made that it is with difficulty that a show stock can be kept on hand. As, however, certain products have a more ready sale than others,

an occasional sale is held in the Employees' Club House, a recent one producing receipts of over $30.00. Friends and relatives of the patients are interested and of course are our most liberal patrons. In special cases, however, patients who have accomplished some special bit of work, of which they are proud, are allowed to make their friends a gift of the product. As the fund allows, small sums are spent to purchase articles desired by those who have shown the most improvement in their work or who for other reasons it is deemed wise to reward. It is perhaps needless to add that any system of rewards must be exercised with care and judgment and it is only used as a means to stimulate renewed effort.

The materials used in our embroidery class are purchased by the state, as the fancy articles, consisting of drawn work, center pieces, cushion tops, etc., are issued to various wards and living apartments, but the funds furnished by sales of other class products are sufficient not only to be devoted to the uses mentioned, but special china has been purchased for afternoon teas, a number of books relating to the educational occupations have been purchased and we have been able to constantly retain a surplus fund for emergencies.

Not only has our superintendent of nurses been actively engaged in instructing the teachers of the various activities mentioned, but we have made use of various patients possessing special talent; for instance, the art class is directed by a woman patient, who, formerly an artist, states that her happiest hours since in the hospital have been spent again working at her easel and in teaching others the beauty of art. Objecting to the sale of paintings of her own creation she is allowed to make gifts of them, but she has no objection to the sale of such of her work as are copies. One such copy in oil, however, recently sold for five dollars, so that it may be seen her contributions to the fund are by no means small. The artificial flower work was likewise started by using a patient as the original instructor, and the same may be said as to book-binding and rug-weaving. Since starting the artificial flower work two other patients, skilled in this form of handicraft, have been admitted to the hospital and with three instructor patients to teach both attendants and fellow patients the work has been extended so that it is now a ward occupation

on several female wards, the product being used for ward decoration. These workers are allowed a portion of the flowers produced to be used as personal adornments and needless to say this acts as a marked incentive. While book-binding and rug-weaving are as yet not extensively developed, the work in the book-bindery has been valuable from an economical standpoint in prolonging the lives of numerous books in the patients' library which would have otherwise been condemned, while the patient directing the technical part of the work has shown steady improvement. Our first rug-weaving was undertaken by a convalescent patient who had been familiar with such work before her marriage. As her convalescence progressed she instructed several fellow patients in the work and showed much skill in devising original patterns. Prior to her discharge she spontaneously remarked that teaching the other patients had so taken her mind from herself that she felt it had much to do with her recovery.

Our physical instructress conducts four different classes, being assisted with each of them by ward nurses. Each class is given exercises in marching, running, wand drills, folk dancing and various games with the basket ball. The wand drills and basket ball games are particularly popular with the men, while with the women, games with light weight bean bags are more popular. Whenever the weather permits these classes are conducted out of doors. The special attendant in charge of these classes likewise supervises and plans entertainments by selected patients which are given in the amusement hall during the winter months.

Our day school for women patients is in charge of a full time special attendant, although for a considerable period she willingly conducted the school as an ordinary attendant, it being possible to give her extra compensation as a member of the hospital orchestra. The usual elementary branches are taught, but in addition instruction is given in drawing, parquetry, school singing and light calisthenics. Occasionally refreshments are served when other patients in the building are invited. It may be added that not only the school but the different classes are also allowed to give occasional teas, and in the summer picnics, to which they invite their friends from other wards, thus in every way emphasizing the advantage of belonging to these classes.

As after all this like other work must be tested by results, it

may be well to briefly refer to a number of concrete cases which are fairly typical.

Mrs. M. when first taken to the basketry class sat mute and apathetic, constantly picking at her face which was covered with small abrasions as a result. When given a basket to work upon she twisted up the material and dropped it to the floor. She was, however, allowed to sit with the industrious patients day after day for several weeks, meanwhile being frequently urged to participate in the work. However, no results were obtained until it was suggested to her that she make a small basket as a gift for her child at home. For the first time she began to manifest interest, finally complied with directions and after a number of weeks completed several baskets of unique design for her children, this thought seeming to stimulate her first effort. Her physical condition induced us to enter her in the physical culture class, but she soon began to complain that it kept her from her basketry. Continuing to show increasing interest, she was later taught stenciling, and she has since become interested in weaving rugs with a loom. We now have no more industrious patient. She draws original designs for stenciling and weaving and what is still more encouraging is helping other patients to start the work.

Another patient, E. W., was invited into the basketry class by another patient. At first idle, apathetic and untidy, she sat with her raphia in her hand, giving it no heed. After about a week, however, she was induced to assort waste raphia and tie it in small bundles for making raphia rope. She became a member of the physical culture class, which at this time was holding session in the exercise grove. Gradually improving both mentally and physically, she finally began to talk to the other patients and she has now partially completed a basket, although it must be admitted that she appears still incapable of any but the simplest occupation. However, she continues to make raphia rope in an efficient manner, which is used by the other patients.

One patient, S. P., who was so helpless as to be unable to dress or undress herself, was practically mute and only ate on urging. Repeated efforts to induce her to engage in basketry were failures. As is the custom, when one form of occupation fails to interest, she was then tried with another, this time pierced brass work being selected. Although at first continuing indifferent

unless it was placed in her hands and she was carefully directed how to proceed, limited co-operation was finally secured and she was taught to complete a few simple designs. She has now progressed in ability with corresponding improvement in her general condition. She has completed a few simple articles and has been induced to attempt basket-making. She dresses herself, gets her work on entering the class room, puts it away, and carries on simple conversation.

Another patient who could easily have been dismissed as being incapable of instruction was Mrs. H., both suicidal and resistive, who for a long time was not put in the occupation class for fear she would cause a disturbance. She was constantly watching at the door in an effort to elope, and although it must be admitted, it was thought there was little chance of improving her condition by occupation, a trial was made. At first somewhat less restless and decidedly less troublesome than on the ward, she went for a few days without doing any work, but she then began to assist with the basketry on the promise that whatever she made she could present to her friends and relatives. Becoming more orderly, she ceased her efforts to elope, and in fact, often protested at the close of the class hour, desiring to work longer. After a time, however, she became dissatisfied with the basketry and at her own request was allowed to go to the sewing room where she at present runs a sewing machine in an efficient manner. Instead of being a burden she has become a useful member of the hospital community, while at the same time she is cheerful, often sings at her work, and while possibly a chronic mental case she gets considerable enjoyment out of life.

Such cases as cited could be multiplied indefinitely, but of course an occasional patient is encountered who shows little or no response to our efforts.

One such case, H. B., untidy, indolent and indifferent, failed to co-operate with any form of occupation until she was tried in the school. Here results were still wanting for a considerable period, but finally she began to show slight interest, became somewhat tidier and at present she engages to some extent in the school work. Although this does not include more than a little arithmetical work and simple and crudely executed drawings, an increasing desire to co-operate is perceptible. She no longer

expectorates on her person as formerly, and meagre as the results be, they seem to warrant continued effort.

S. K. and R. J., both 16 year old girls who were extremely filthy in habits and wholly unable to care for themselves, gave no heed when prolonged effort was made to interest them in occupational work. With persistent individual attention, however, they finally responded to a limited degree, after being placed in the school. They are now fairly tidy in personal habits and participate to some extent in the school activities, one often acting as school monitor and the other showing considerable talent in drawing. Of her own initiative, she gives considerable attention to shading in fruit studies, such drawings first arousing her interest. Thus is shown the necessity of employing flexible methods, in determining the form of occupation in any given case. If failure attends early efforts it should only stimulate the instructor to continue a search for that special form of occupation which will arouse primary interest, and which is sure to be found, in the majority of cases, if the search be sufficiently earnest and prolonged.

To briefly summarize general conclusions it may be stated that:

(1) The therapeutic value of occupation of the insane is axiomatic and is based upon sound psychological laws.

(2) Former haphazard occupations should be replaced by graded, systematized plans of work under a co-ordinating head.

(3) Occupational re-education, as emphasized in special classes, should likewise be a feature of ordinary routine hospital work.

(4) The supervision of occupational re-education is distinctly medical work.

(5) The form of occupation should be adapted to patients' capacity, should not be monotonous, and, so far as possible, should be creative.

(6) Successful re-education means primary interest, and to induce this, methods must be flexible and vary with the individual.

(7) Recreation should accompany occupation, the latter never being regarded as an end in itself.

(8) Success of work depends more upon character of instructors than character of patients.

(9) Despite necessity of trained specialists for occupational instruction, with inculcation of proper spirit, it is possible to develop most of them from the regular force of a hospital.

(10) Special occupational classes require no expensive equipment and can be made practically self-supporting.

(11) While New York state hospitals are doing more than ever before in occupational training, it is possible to still further extend the work by using attendants as assistants to regular instructors and introducing occupational training as ward work.

(12) While many cases are incurable, despite any form of treatment, the industrious are thereby less burdensome and lead happier lives.

(13) Occupation for insane patients has great economic value, but this must ever remain subsidiary to therapeutic aspect.

THE RELATION OF CERTAIN PSYCHOSES TO THE NEUROSES.*

By CHESTER L. CARLISLE,
Kings Park State Hospital, Kings Park, L. I., N. Y.

A survey of the various psychoses with an analysis of their symptoms with special reference to complex reactions has seemed to point that while there are a large number of minor reaction groups which it appears desirable to retain for purposes of convenient study and classification, yet the fundamental reactions can be traced to a few rather primary types of abnormal mentation.

The more one looks over the field the more is one's attention drawn to the study of congenital neuron stability or instability as represented in the make-up of the personality without regard to environmental adjunctions. The further application of the Mendelian laws will no doubt throw much light upon what may be expected in human progeny given a certain type of ancestry. Recent studies of heredity point out that the neuropathic constitution is transmitted in the manner of a trait which is recessive to the normal. Also, it is suspected that certain neuropathic disorders are more recessive than others in which scale dementia præcox, epilepsy and imbecility are increasingly recessive in the order named. It would appear that while dementia præcox and epilepsy can not stand in the relation of equivalents from the standpoint of heredity, yet they do bear a kinship in fundamental mechanisms as developed clinically; particularly so do we find dementia præcox and fainting spells or convulsions in childhood, which when occuring in brothers or sisters would seem to form the basis for the assumption of a clinical equivalent grouping on a definite hereditary basis.

The question now comes up for future solution: Are there definite clinical equivalents for what we now consider well-marked psychotic complexes among the so-called neuroses? If this can ever be demonstrated would we not then consider a certain psychosis and its equivalent neurosis as a broad primary group repre-

*Read at the sixty-eighth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., May 28-31, 1912.

senting a real disease entity? These inclusive disease groupings would be based: First, on the make-up laid down by the determiners in the germ plasm of the progenitors; and, secondly, on the fundamental and distinctive reaction types underlying the symptom complex developing later. These final ideatory and kinesthetic activization mechanisms fall into three great groups: Those showing essential difficulty in ideatory activization depending upon actual neuron disorganization, the cause of which may be considered exogenous from the standpoint of the nerve-cell proper, and includes the organic psychoses, the exogenous toxic disorders and the strictly traumatic defects. A second group is that in which mood fluctuation without an essential dilapidation process is the salient feature and where a labile emotional make-up is very noticeable. Third, those which show a failure of adaptation to the irritations of their environment, with a specific tendency toward evading issues to be met and substituting unsatisfactory and faulty equivalents which, as complex-reactions, lead to more or less eventual disintegration of the personality; without the presence of a constant, demonstrable, physical, etiological factor.

Modern investigations have correlated the peripheral nervous anatomy with the central brain stem, both in development and in actual anatomical continuity. Following this reasoning it is questionable whether we can any longer draw a sharp line of distinction between neurology in its old meaning and its twin sister psychiatry. Not only must the whole of the nervous mechanism be considered as one inter-working unit but also the whole of the normal body economy must be taken into consideration, with its component secretions, excretions, and particularly those special stimuli received from the sexual sphere, including here the various erogenous zones; as well as any possible special toxines which might be developed or any internal secretion which might be produced under abnormal conditions.

From a mass of unrelated anatomical facts has been developed a compact neurological structure. From a mass of seemingly unrelated psychotic reactions we hope may be shown a true inter-relationship and equivalent reaction groups, existing within the conception of broad, fundamental processes. Each of these groups has many minor variations. The primary

upsetting cause in each depends upon definite factors in the antecedents, this being the "primitive streak" so far as the development of the personal make-up is concerned. Then follow variations in the developing make-up, and upon this is the sun or shadow of peculiarities of environment. The immediate causes of upset are exogenous or endogenous factors working on individuals predisposed by the primary causes of mental non-resistance. These more immediate factors may be either physical or mental. The physical includes the usual chemical or biochemical incidents. The mental includes the purely psychic, whose advent on the field may be abrupt or insidious, conscious or subconscious; but in whatever guise they come experience has amply shown that they are entirely adequate to cause the most profound psychotic disturbances if not properly met and adequately reacted to and thus disposed of.

It goes without saying that all mentation and resulting reactions are based on associatory constellations of wide ramifications, but it has remained for recent years to show that behind the abnormal reaction types are certain fairly definite groups of ideatory complexes, especially in the cases showing disadaptability and disjunction with their own particular place in the world's work.

In dementia præcox we find the process occuring first as an irritation, a something which the patient tries to escape and which he refuses to meet squarely and satisfactorily; then gradually, after various substitutive reactions may have been evolved, we see the irritative complex has broken completely through the surface personality, disrupting affect from idea and making normal adjustments to the environment more and more impossible, ending finally in dilapidation. There is in particular a marked lowering of apperception and a growing loss of touch with actual facts and things, upon which depends the peculiar symptomatology of stereotypy, perseveration, negativism, and like reactions.

The mechanisms of hysteria—the classical neurosis of the older text-books—show a somewhat similar splitting process at work, however, of a more orderly type and preserving correct associations through one or more extensive constellation planes, even to the extent of developing several split-off distinctive and coherent personalities with or without amnesia for each other. It appears

as a specialized, parallel dissociation rather than as the heterogeneous disjunction and imperfect splitting of the dementia præcox group, or, as some prefer to call it, schizophrenia.

In hysteria we find an irritative complex not adequately disposed of by complete reaction, particularly in the emotional field, and its bitter residue is left as an affect memory colored by the sexual sphere. Because this buried complex is distasteful to the personality the individual develops an amnestic mechanism for it. If the complex is of sufficient affect importance, its associated relations to the events of life will be large and it is sure to present several vulnerable points of attack, so that many events, trifling in themselves, tend to arouse its reaction, and it may grow to dominate the whole subconscious psychic activity. This produces diverse psychotic symptoms as well as perverts the peripheral enervation apparatus which is affected equally with mentation by the same process of splitting, so that peripheral stimuli are not correlated with past experiences, and the classical paralyses and other somatic disorders result.

Shall we consider it probable that when a psychic trauma is taken care of by this dissociation-amnestic mechanism the personality is protected and the individual does not deteriorate? When an irritative complex fails to be removed either by adequate normal adaptation or by secondary explanation and mental catharsis, or to be covered by a protective amnesia, do we get the permanent splitting of personality and final enfeeblement of associated activity known as terminal deterioration?

In both hysteria and dementia præcox we find a psychic mechanism at work which is exceedingly sensitive to analysis, and when touched upon produces certain characteristic reflections in the ideatory and kinesthetic spheres, *i. e.,* the abnormal reactions to the association word tests, the phenomena of blushing (vasomotor) changes in heart and respiratory rhythm, fluctuations in the organic activities as in the perspiration, etc. Considering the make-up of these two disorders we find the ego-centric element prominent in each. We know the individual non-resistant to dementia præcox development is shy, sullen, seclusive, and a poor mixer generally. Those cases where such was not readily demonstrable when superficially viewed are seen on a closer analysis to be due to the ego-centric factor overcoming the more usual feeling

of withdrawal and seclusiveness. The ordinary seclusive type is ego-centric in that it wants to be alone with its own personality, without regard to outside influences; but the apparently non-seclusive case is simply the same seclusive type with the ego so largely predominating that it overclouds the usual reactions as to conduct. Hysterical subjects are also well-known to be intensely ego-centric and selfish and while apparently not exactly seclusive have an equivalent in this direction in their disregard for others and an indifference to the conventions.

The affect disorders of both these psychoses deserve comparison, as in each there is much drifting toward apathy and indifference, particularly in those relations which we are prone to think of as primitive, namely the ties of family. The mechanism which produces sudden impulsive flights and ambulatory incidents in either disorder seems to point to a similar fundamental process at work; while the prominence of hallucinatory reactions in dementia præcox compels our attention especially in comparison to the dreamy ecstatic episodes of hysteria.

The neurosis epilepsy has always been a disease whose mechanisms and etiology were extremely obscure. Recent literature adds little to the older knowledge of this disorder except as to heredity, where it is suspected to be more recessive to the normal than is dementia præcox, and that from a clinical standpoint both disorders were observed occurring in the same neuropathic family tree. If the one is more recessive than the other, and the degree of recessiveness is believed to be proven by the outlook as to recovery from the clinical side, then it seems we might postulate a condition wherein the two conditions were not far from each other on the neuropathic scale, and consequently we should find certain trends in each similating the mechanisms of the other, and while differing widely in surface symptoms throughout the patient's life yet have a certain relationship both as to fundamental cause (which means degree of neuropathic virulence so far as recessiveness is concerned) mechanism of symptom development and final outcome (which also is quite fixed from the kind of determiners as to recessiveness in the parental germ plasm).

From a clinical standpoint we remember that so far as outcome is concerned we do not expect gross dilapidation in all cases of either of these disorders, but as to what may be said for perfect

efficiency is another matter. From the studies of Jung and others there seems to be a very similar mechanism at work in the symptom-complex reaction of dementia præcox and hysteria; and since the dissociated activities followed by amnesia of both hysteria and epilepsy have phases sufficiently similar to cause grave doubt at times in the minds of the most conscientious observers it does not seem unreasonable to consider that these two classical neuroses should be considered as not only intimately related to each other but bearing many fundamental points in common with dementia præcox, a disorder which we have been led to believe was wholly psychotic in its nature. All three may show more or less difficulty in the field of apperception. They are particularly prone to be somewhat out of touch with their environment and to show disunited trends as expressed clinically in all degrees from the most profound splitting to the finer grades demonstrated with difficulty in the eccentric judgment of the paranoid states, or the selfish, ego-centric, dramatic hysteric, or the gloomy, withdrawn, hypochondriacal attitude of the epileptic.

We are gradually learning that no matter how vagarious the utterances of any psychotic individual may be that nevertheless they all mean *something* to that individual. This is based on the fact that all the psychoses of faulty adjustment and even those showing variations chiefly in the emotional field are reactions upon imperfectly assimilated complexes or association groups. This has been demonstrated by many observers, but as yet little definite stress has been laid upon such psychic causes in the realm of so-called idiopathic epilepsy.

Many convulsive cases show a direct relation to a causal factor wholly psychic and in no way connected with a physical trauma. Such cases point to the extraordinary influence which strongly affective, associated trends can exert. When the convulsive episode is thus initiated upon an individual predisposed in hereditary make-up the condition is likely to recur owing to the lost neuron stability and the convulsive habit is permanently introduced.

So far as the organic changes in the cortex of any of these neuropathic states is concerned it would seem that they are quite variable and inconclusive. The changes themselves have been variously interpreted as both cause and effect. Certainly in the light of our present knowledge it would seem best to cling to that

etiology which we can at least partially demonstrate and through which we are offered some plan of helping future sufferers rather than adopting a too hopeless view of things based on organic brain disintegration.

The physical stigmata of these dissociative disorders will require much future study, but dulling of the pain sense and the disregard of the muscular sense and similar symptoms as seen in the katatonic may find their corollary in the analgesias and paralyses of the hysterical subject. The indifference of the epileptic to his minor wounds received during a convulsion has often been noticed as a very striking thing.

In the psychoses of the emotional type as exemplified in the manic-depressive group, and the various depressions not of an infective-toxic nature, we find an entirely different state of affairs so far as their relation to any neurosis is concerned. This is based both on its neuropathic heredity value where, although recessive to the normal, it approaches it and is far removed on the scale from both dementia præcox and epilepsy; and from the clinical side where we often consider it as the exaggerated expression of normal mood fluctuation.

Against the dissociative mechanism we have at work an extremely active association process as in the excitements with their flowing stream of related thought and activity. Even the depressed types while they may show actual dearth of ideation yet on analysis exhibit a connected associated complex, however meager. It would seem that our older conception of these groups must be widened somewhat in order to satisfactorily account for certain types which in their mental processes seem indubitably to belong to the emotional disorders rather than to the splitting-complex group. These would include the primary depressions of middle life without senile basis; the depressed, rather querulent types also of middle age; and that class of individuals who while never showing any typical attacks of either excitement or depression are full of boundless activity, good speakers, assiduous writers, prolific promotors of business ventures, sensitive, of easily aroused emotions and of elastic temperament. This is the manic-depressive personality which seems to be quite as typical as the seclusive make-up of the dementia præcox group and no doubt as capable of hereditary transmission as the latter.

We know from psycho-analysis that here also the psychic type of causal factor is very prominent and affords an explanation for what would otherwise be considered wholly causeless outbreaks of excitement. So far as the depressions are concerned we know that incomplete sexual reactions have a most important rôle, particularly in the only neurosis which claims clinical relationship to this family, namely, the anxiety-neurosis. Just what its relationship may be from the standpoint of heredity is a problem for future solution. The other neuroses remaining to be considered are psychoasthenia and neurasthenia. These seem best placed in the dissociative group and represent simply differing directions of ideatory projection. The psychasthenic type holds to a more purely mental sphere with the development of odd ideas, obsessions and the like; while the neurasthenic centers his mental activities along somatic fields. The fact that either may show symptoms of the other and are always found dependent upon undigested sexual conflicts when sufficiently accessible for analysis would go far to indicate to what broad group they are related. The not rare cases which drift into a typical splitting and maladaptive mental disorder are further proof in this direction.

For the cases appended I am indebted to Dr. William Austin Macy, Superintendent, and to Dr. A. J. Rosanoff for the material on heredity.

Case 8332.—Miss K. B. Father normal; mother excitable; all brothers and sisters normal. No heredity as to dementia præcox, epilepsy or hysteria. Was a full term child who after a normal birth developed infantile paralysis at 13 months, and still had a slight residual paralysis in both legs at the age of 15 years, when she was admitted. She went to school and received an ordinary schooling but did not get along well in her classes, as she did not care for school and went irregularly. Disposition was called quiet, seclusive, stubborn, and rather indolent. *At the age of 10,* while visiting a girl friend, both girls were *sexually assaulted* by the brother-in-law of the friend. No special reaction beyond fright was noticed and puberty was normally established. About *the age of 13* following a fall on the head without definite skull trauma, *she developed a convulsion* of both tonic and clonic spasms lasting half an hour. Later she began to say that people did not care for her and that people stared at her in a peculiar way. Because she was not allowed her own way she flew into a tantrum at 15 and attempted homicide and suicide. On admission she expressed ill-defined persecutory ideas and did not react well to her environment. She believed her parents never cared for her very much and said things about her to disgrace her. Was oriented but had

no insight. She continued to have convulsions and was irritable and querulous before them, dull and apathetic afterward. There is here then a complex developing upon soil fairly clear from a hereditary standpoint; physically, depressed in early life by an acute antero-polio myelitis with resulting leg paralysis. At the age of ten she is sexually assaulted and two and one-half years later, following a slight head trauma, develops a convulsive condition with the ideatory complex of parents and people not thinking well of her, staring at her, etc. Her ideas are quite referable to the repressed irritative sexual complex; and the general picture shows difficulty of adaptation to situations presented with a convulsive mechanism engrafted later without definite physical cause.

Case 7942.—Mr. W. D. T. Three paternal uncles are alcoholic, one had delirium tremens twice, one had chorea; one paternal cousin was an an epileptic idiot; mother had "spasms" at the age of 14, "fainting spells" at 18, and was "hysterical" previous to the birth of patient. This was said to have been due to two frights, one at fourth and one at sixth months of pregnancy. Father suffered from migraine. Patient's birth was difficult and version was performed. However, he developed fairly well and attended school from 5 to 14, but disliked study and did poorly. He could work well but stopped finally because he thought his fellow workmen objected to him and thought also that they commented about odors supposed to emanate from his person. He then had a convulsion while in church during the singing of a hymn. Two or three weeks later he had a second convulsion and then developed the convulsive habit, but never had aura although having both grand and petit mal attacks. He gradually developed periods of uncontrollable excitement during which he would turn round screaming and would assault others. Orientation and grasp remained intact. There is *no amnesia* for a period of seizure; emotional tone is dull and apathetic. There is here to be noted the heredity of similar types, the development of psychosis of annoyance with olfactory hallucinations upon a personality lacking in initiative and with some seclusiveness; then during a religious ceremony he has his first convulsion without any history of physical trauma. Following which the convulsive habit is established with periods of excitement and absolute loss of touch with environment, but *at no time showing amnestic* mechanism.

Case 8222.—A man with a maternal uncle alcoholic, who had a probably normal childhood up to the *age of seven,* when he and a boy cousin performed mutual *masturbation,* which he kept up for several years. He received a good education and attended college seven years, studying for the priesthood, but finally concluded he had been too sinful for a priest, and became a porter. It was rather difficult for him to learn while in school. He developed a homo-sexual attitude and never had any desire for normal relations with the other sex. After emigrating from Ireland he found work in a large department store in New York. *He worried*

over his past sexual affairs, believing them wicked, all during his young adult life. Finally reopened this conflict by practicing pederasty about the age of 30. About six months previous to admission, at the age of 31, he began to feel that every one knew of his perverted acts, although he could not explain how they should know, as he had never made any advances to them. Then he began to think detectives were following him to arrest him for sodomy. He thought his fellow workmen remarked about these things and were all against him. He felt he had committed the great sin, and, although absolved by a priest, could not find solace, and eventually tried to commit suicide by taking gas. On regaining consciousness he begged to know about his family in Ireland, and said he thought they were all dead. These ideas persisted in a fairly definite way, without marked impairment of orientation, or the appearance of marked dilapidation. The reaction is apparently quite logically the result of maladaptation to sexual experiences; the mechanism being that of a paranoid type with impairment of efficiency and personality but no gross deterioration.

Case 7417.—E. K., a man of 25, with a normal heredity. He had convulsions up to the age of five, but was bright and even precocious. He did well in school and studied hard. While quite young was *exposed to perverted sexual practices* by his brother's friends, but eventually did well in business and earned $105 a month with his last employer as an accountant. He gradually showed an indifference to things and seemed apathetic, the while he complained of being annoyed in his office by petty things. He finally came to believe that poison was placed in his food and medicine and claimed the physician should *examine the rectum to see what kind of poison it was.* He thought two other patients were employed to kill him. He also laid much blame on his family for the way he had been reared and complained of neglect and persecution by them. The ideas are formulated on paranoid lines and he shows no gross deterioration. The connection between the delusion of poison in the rectum and the perverted sexual practices is sufficiently obvious without further analysis.

Case 7431.—J. R., a man who had one brother who suffered from convulsions, and whose father was No. 1062, K. P. S. H. The father on admission complained of loss of memory, dullness and ideas of persecution. The psychosis began about the age of 49 with an active hallucinosis, saw strange men in bed with his wife and thought she wished to kill him. After admission he walked around aimlessly, talked to himself. Eight years later still retained the persecutory ideas; made a queer noise which he called a prayer and was always homicidal towards his supposed enemies. Will drink his urine, fills pockets with rubbish.

The son, No. 7431, was of normal birth, irritable as a child and began *to masturbate.* Was seclusive and cared little for women. Began work at 14 and became a tailor. About the age of *19 he had a love affair,* which was unsuccessful and then he began to worry over himself, cried a great deal but gave no reason for it. He called a priest and doctor and then

refused their ministrations. He noticed his friends began to act queerly but had no actual enemies nor persecutions. His stream of thought narrowed, he became shallow, seclusive, of poor judgment and drifted into a simple form of general deterioration without marked trends. The whole picture seems to point to a mal-adaption to a situation rooted in the sexual sphere, with masturbation, expressing the abnormal methods of satisfying the conflict and into which are engrafted ideas of disappointment and a feeling that people did not think him to be like other people and therefore looked at him queerly, etc., all of which means a psychosis substituted for a normal reaction in a difficult situation; the individual, moreover, being of a non-resistant neuropathic type as shown by the heredity.

Case 51865.—S. G., a woman with an heredity showing a maternal aunt who died of apoplexy, and a maternal half aunt who had epilepsy. Personal history was uneventful; she was employed as a servant. About the age of 26 *she was engaged* to a young man who was killed by a train. She showed no immediate reaction but gradually developed the idea that other people were jealous of her and many people united to prevent her marriage, God revealed Himself to her and that she is superior to most people who are jealous of her. She was told by a palmist that happiness would come to her and *she now believes herself engaged to a man.* She is controlled by hypnotism and reacts to auditory hallucinations, the sexually satisfying content of her delusional trend here showing itself largely as a wish fulfillment. Emotionally she was indifferent but showed no gross deterioration, although her conduct demonstrated that she was quite out of real touch with her environment and her difficulties resulted from a lack of adaptation and a lack of capacity for normal reactions when she met incidents of stress.

Case 6985.—J. D., a woman who had an epileptic mother. *Patient's father was the brother of the mother.* Patient showed nothing very unusual as a child and received a common school education. She married at the age of 22, in 1882. In 1888 she developed epilepsy with a psychosis which improved under treatment, but was subject to varying degrees of intensity for years afterward. In 1910 she had visions of hell and *thought she had to suffer for her children's sake.* She was lachrymose, irritable, sang, prayed and screamed. She would lie in bed as though comatose but could be aroused. The picture presented is a defective type produced by the inbreeding of an epileptic mother with her own brother. A supposedly ordinary epileptic psychosis occurs in this person at the age of 28, six years after marriage. Following the establishment of the convulsive habit we find 22 years later a marked *hyperesthesia* all over the body to both pain, touch, heat and cold. Knee jerks exaggerated and painful, also plantars. Abdominal reflexes are normal. Pupils round, equal, symmetrical and react normally to light and accomodation. *Amnesia for convulsions not able to be positively established.* Her last excitement followed the accidental death of her husband. She thought

she saw him and other dead relatives; that he would not have a grave, and her children would turn her out; she wished to be with him; then her relatives tried to poison her and she escaped from them in her night clothes (fugue). Her attention was poor and comprehension lacking. Finally she cleared up mentally quite suddenly, almost within a week. Grasp and orientation returned but the convulsions continued about every ten days. We have here a psychosis low on the recessive hereditary scale, but not developing until the age of 28. Finally after a period of quiescence the psychosis breaks forth under a purely mental upsetting cause, in the death of the husband, and the condition found shows unexplained hyperesthesias, a questionable amnesia for the apparently typical grand-mal convulsions, which continue. No classical hysterical stigmata, but there are amnestic patches for disagreeable things, as a former hospital admission. These varying symptoms have now extended over a period of 24 years and to-day she is considered as recovered except for the convulsive habit.

Case 8237.—K. A., a woman who had one sister insane. Sister has ideas of persecution to which she strongly reacts and is in a paranoid state. Personally K. A. was supposedly normal up to the age of five when her arm and leg were contracted on one side by "scarlet fever," and she also remained cross-eyed up to the age of 10. These conditions made her shy, but yet she made friends and attended school until the age of 15. Her father kept a saloon and boarding house and she assisted him. During her young girlhood she *had a love affair and the lover died.* Later she married at 26 and her first child came a year later. Following this she had 19 pregnancies, and at the time of admission—at the age of 44—had five living children, with 18 years difference in their ages. Eleven of the 19 children were born alive, and five survived. Her husband drank and her married life was hard and unhappy. Eventually she refused to eat, became excitable and talked vaguely of babies that were in incubators at Coney Island as hers; that poison is in the food; that she owns much property, and as a result was committed. On admission she thinks *the physician is her long dead lover and she is now a princess.* Electricity is put in her by the (great) man Edison because she is a princess. Her family is of royal blood and she is a changeling. Her dead lover disguises himself and variously identified people come and go. She wished to kill her real husband because he struck her and treated her dreadfully. Her make-up is perhaps a little inferior and the mechanism of the psychosis is that of a brilliant, joyous, regal substitute, wherein the long lost lover reappears and long repressed libido is set free to take the place of life's real actualities, where 18 years of tormented life with a brutal husband had made further normal adaptation impossible. A mechanism which while splitting the personality and recasting the fragments yet molded a complex of wishes fulfilled and the bizarre language then takes on the dignity of an actual life narrative, which, though entirely foreign to the patient's real life, was entirely acceptable and *understandable* to her.

Case 50190.—J. R. McK., a man whose father was a periodical drinker, mother very nervous at 68. Patient was not strong as a child, attended school till 13 and became a machinist in which trade he was efficient. He was twice married, the first time at 35, but the wife died two years later; then at *38 had an operation for varicocele* following which he began to dread to go out; then was advised to marry again which he did. Seven years later he developed the idea that this wife is unfaithful to him and makes violent demonstrations toward her in reaction. *He began to masturbate* and would have an outburst of anger toward his wife after doing so. During these attacks he would smash the furniture and continue excited for about three days. He seemed sleepy most of the time. Then eight years after the varicocele operation, and for at least one year sexually nearly impotent, we find him exposing his person at the windows of his house. Three years later he is entirely impotent and then feels that "people make fun of him—talked about him downstairs," etc. In addition to these ego-centric ideas, he spent much time in brooding over sexual matters although unable to have sexual intercourse. He was dangerous, as he thought his wife wanted to get rid of him and that every one in general was opposed to him. He neglected reading (which he had formerly done a great deal) and appeared dull and slept much. Retention tests poor. Believed his seminal fluid runs away in his urine. His efficiency is impaired by the constant obtrusion of these disagreeable thoughts into his consciousness. The whole picture seems to be fairly clear as to sexual ruminations which began following a varicocele operation leading to ideas of impotence. His relations with his wife were thus made difficult and masturbation appears as a substitution to a conflict already present. The faulty adaptation and substitutive reactions lead to considerable distortion of the disorganized personality shown in the low work efficiency. Whether a permanent readjustment through analysis and explanation can be obtained is doubtful; for while he may return to his normal, here comes in the neuropathic hereditary ground work—we have still only this poor grade, non-resistant brain stuff to proceed with.

Case 39885.—J. M., a man whose father was a heavy drinker, but beyond this has a negative heredity. Patient experienced some difficulty in getting along at school; did not do very well in his classes. Later was temperate as to habits but masturbated. About the age of 21 was admitted to a state hospital. He showed no formal speech disorder, and said he used to be quite strong, but had worried over his sickness, at the same time while saying this appearing cheerful, and apparently had some disjunction between affect and ideation content. Orientation, memory and retention tests all well performed; insight nil. He was discharged improved a short time after admission. Diagnosis dementia præcox.

Eleven months later he is admitted to Kings Park because he is inclined to be seclusive and so upset as to be unable to employ himself. He cannot work, for if he has any tools in his hands he is afraid they may go through his body. He knew where he was and agreed to come here for treatment.

The psychosis is a continuation of the one for which he was first committed. Physically he shows nothing definite. He denies any sort of delusions; said he felt depressed because he did not feel well. Complains of pain in the stomach and a feeling of distention. The chief feature is the obsession of fear of tools, which fear demoralizes his efficiency and prevents his working. The case is illustrative of those having features which, if viewed at one upset only, would be misleading or at least unsatisfying, for the continued history of the disorder seems capable of producing a dementia præcox symptom complex at one time and again a quite typical psychasthenia. But the one underlying process seems a broad-based mental disorder whose symptoms, however manifold, depend upon lack of mental adaptation and whose mechanism is essentially of a splitting type.

SOME PSYCHOLOGICAL OBSERVATIONS IN THE INSANE.*

By MAX E. WITTE,

Superintendent, Clarinda State Hospital, Clarinda, Iowa.

When a patient is brought to us, amongst other pertinent questions, we are very apt to ask: When and how did the trouble begin? And the mother or wife, for it is usually a woman who answers, will say: "I first noticed that there was something wrong with him at such and such a time, but I had no thought it was insanity." On being more urgently pressed to state in what way disorder was first manifested, she will say: "There was a change; he appeared different," and no matter in what words she may express it, careful inquiry will reveal the fact that the first signs of mental disorder in the patient consisted in a marked alteration in disposition.

Now, if you will grant me that our disposition is our habitual mental attitude towards our environment, and has its foundation in our prevailing states of fecling, we may say that the first disorder in our patient was manifested in the sphere of feeling—feeling with its paramount influence on the will, and as contrasted to thought. Not only in insanity is the field of feeling primarily involved and disordered, but further study of the patient after he has come under our personal observation shows conclusively that this is fundamentally so. No matter what other fields of mentality become implicated, they do so secondarily, and as a basis of the psychical derangement remains the emotional disorder. Some forms of insanity show this more obviously than others, but even in those wherein it is not so obviously apparent close study will reveal some impairment or perversion of feeling. Perhaps most marked is this in manic-depressive insanity, which derives its generic name from this very fact. In the milder cases of this peculiar disease type, as you well know, there is in the maniacal state an expansive, exalted, happy state of feelings, and in the milder cases, with no disorder of thinking, thought is exuberant and facile. And this emotional elation is well shown in the region of

* Read at the sixty-eighth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., May 28-31, 1912.

the will by erratic, restless, and even frivolous conduct. On the other hand, in the depressed phase we find a prevalence of sad, painful emotions, with their characteristic inhibiting influence on thought and will. In the milder forms of depression thought and behavior are correct enough, but both are slowed. It is only in the severer degrees of the disease that delusions, illusions and hallucinations appear.

But it is in melancholia proper that we find most interesting, or at least most distressing, disorder of feeling, most interesting to me personally, since closer acquaintance with many tortured victims of the disease has wrought in me radical changes in certain psychological points of view. I formerly thought in consonance with certain eminent schools of psychology that feeling is subordinate and secondary to thought, indeed an effect of thought. For instance, in thought we contemplate a painful occurrence, either experienced now or recalled in memory, and are sad. In the distressed melancholiac this would mean, he conceives on the basis of disordered thinking the delusion of having committed the "unpardonable sin," and hence is harried by torturing anxiety, hopeless despair, and a sense of impending doom.

Now, as a result of critical studies in melancholia I believe the reverse is the true order of development of the melancholiac condition. If the precedence of a painful state of feelings to the distressing thought, *i. e.*, the delusions, can be firmly established it would as a corollary rehabilitate feeling in the tripartite realm of the mind, and give it primary importance by its power of selecting and directing thought, besides furnishing motive to the will. The order would now read: We feel sad, hence think painful thoughts; we let our extensors sag from deficient innervation, and lapse into a dejected expression and listless attitude.

This view would also favor the James-Lange theory of emotional genesis. More particularly is this so when we attempt to explain the occurrence of an emotional state following in the wake and as a resultant of a present experience. As you no doubt remember, the James-Lange theory holds that a particular state of feeling follows and results from certain well marked physiological processes which are a part of the emotional manifestation. In fact, the feeling is the effect rather than the cause of the physiological process, instead of the contrary, as has been usually

held. For instance, in the feeling of fear we find a general depression of the vital functions; shallow, embarrassed breathing; weakened heart contraction; vascular disorder, as shown by pallor and small thready pulse; arrest of all digestive processes, even to nausea and vomiting, and a disorder of all excretions; profuse perspiration, and loss of control over bladder and bowels. All the foregoing are depending on functional disorder of the sympathetic nervous system, but the cerebrospinal system is also implicated, as witness the trembling of the limbs, the incoordination of movement, and the specific reaction in the facial muscles, giving in this instance the characteristic expression of fear. In the milder degrees of fear motor reacting and efficiency may be increased to some extent, but in the graver forms of fright and terror all motor innervation is inhibited, the sufferer is paralyzed —panicstricken we say. The heart weakens, even stops, and patient faints and becomes unconscious, and condition generally resembles if it is not identical with surgical shock.

Now, we believe the sequence is something like this: Something occurs and impresses a nervous mechanism operating below the threshold of consciousness, and which has its seat more particularly in the great sympathetic system of nerves, an heirloom acquired in the dim and hoary past by the race and transmitted to us as most useful to life and progress. This mechanism starts the functional changes in our organs, and sensory impressions from these, as well as altered chemical products resulting, influence and produce intracellular changes in the neuronic systems of the basal ganglia and the somatopsychic region of our cerebral cortex, which in our sensorium we experience as a feeling. Or, in a few words, and again employing our example, we suffer from shallowed respiration; a weakened heart; disordered vessels; arrest of digestion; excretory disturbances, and motor enfeeblement, and as a result, we fear.

That the bodily disorder precedes the mental effect becomes quite apparent when we study in comparison the emotional states in the non-insane, due to functional disorder of important organs, and similar states in the insane. For instance, I personally have been unable to observe a difference in kind between the sad state of feeling engendered by temporary derangement of gastric and hepatic function, vulgo the "blues," and the simple depression of

manic-depressive insanity—the hypo-melancholia of some older classifications. I grant there is a difference in duration, for the one may yield to a dose of calomel, while the other is stubborn and resistive to treatment. But there is scarcely a difference in intensity, for I have seen as deep depression and despondency in one as the other. I will speak of this again when I come to consider the locus of origination of feeling.

In furtherance of my argument that feeling is an independent phase of the mind, and that in consciousness we can and may have pure states of feeling, at least in disordered mentality as we find it in certain forms of insanity, permit me to describe briefly three cases of melancholia as they happen to come haphazard to my attention. They are all women, all elderly, on the same ward; they suffer distressing sleeplessness, and the unspeakable torture of true melancholia, which time and again has driven each in desperation to seek relief in suicide. There can be no question as to the reality and intensity of a painful state of feeling which can thus override the one fundamental instinctive feeling of our being—the love of life. I may say further, each of these poor sufferers is entirely clear in consciousness, fully oriented, of an unimpaired memory, able to reason as well as ever, in no wise reduced in moral or religious feeling; in fact, not at all demented. Cases I and II are essentially alike, but Case II approaches Case III in some ways. Case III is also similar, apparently, but really different in an important particular.

Case I.—Æt. 40; single, domestic, and worker in a factory; Irish extraction; Catholic. Some insanity in the family. Habits good. Intelligence good. Melancholia (involution). Beginning of menopause. Is said to have had hallucinations of taste (probably complained of bad taste in the mouth; there is nothing of this present at this time). Trouble began two years ago. Patient is entirely clear and oriented, with an unimpaired memory and understanding, and there is positively no trace of any delusion. She suffers intense distress and misery and is very restless and agitated, weeping and wringing her hands in anguish, with facial expression of great suffering. She says she feels no bodily pain, though she has a feeling of oppression in precordial region. Close questioning reveals that her suffering is all in her feelings. She cannot explain why she is so tortured. She does not remember of any special wrongdoing. She wants to die, and from every indication she suffers fully as much mental pain as Cases II and III, and like them has a distinct lowering in the sense of personal worth, but, unlike III, does not explain it.

Case II.—Æt. 67; widow; Dane; 10 children; housewife; good financial circumstances; menopause at 50; Baptist. Hereditarily encumbered—father, aunt, son and daughter insane. Has been deranged off and on during the last 16 years or more. Made several apparent recoveries. Diagnosis: Melancholia (involution). Patient is profoundly depressed in feeling, though some variation in intensity is noted. She has made a number of desperate attempts at suicide by hanging, choking and poison. While the patient is clear and rational at all times, and has periods of short duration when she feels fairly comfortable, she suffers waves of indescribable misery and anxiety, during which she is intensely restless and agitated, moving about, groaning, and wringing her hands in nameless anguish. Her face is expressive of intense suffering. She has no delusions no illusions or hallucinations, and memory is clear and accurate. If asked if she suffers bodily pain, or has done some wrong or met with some injury, she says no; it is her feelings, she cannot "stand it," and begs the doctor to give her something to die. She has precordial distress, and during the height of the torture she is observed to press her hands over the abdominal region, although she denies having any actual pain there. She has a feeling of impending calamity, but does not know what, or cannot explain definitely. At times feels she will die, again fears she may not.

Case III.—Æt. 62; single; Baptist clergyman's daughter; English; milliner. This attack began three years ago. Had first attack 15 years previously. Duration one year. No constitutional incumbrance. Habits good. Intelligence good. Melancholia (involution). Patient is clear and intelligent and of good memory and understanding, but suffers intense mental pain, and is very wretched and agitated, and unable to find rest and comfort anywhere. Facial expression, and her whole behavior, indicates extreme suffering, which rises at times to a pitch of frenzy, during which she screams as if in mortal anguish. She is very much reduced physically and suffers enteric irritability and diarrhœa at times. She complains of no physical pain, but that her feelings are so distressed, and is harassed by a premonition of impending doom, which she says she richly deserves, since she is possessed by an evil spirit, and has committed the great sin which cannot be forgiven. She has lost her chance of Heaven and is condemned to torment here and everlasting punishment in the hereafter. Questioning brings out no obvious misdeed. (She herself does not attach much importance to a confessed minor offence against chastity.) But she feels that she suffers on account of her great wickedness, and that she was born with it.

A comparative study of these three cases has been very interesting to me. In all these women the disease began with a profound disorder in the emotional sphere, and indeed this has continued so. If one were asked: What is the one predominant characteristic in these cases, the answer would be: Mental pain. But what gives the series especial interest is a glimpse at the

genesis of conceptual disorder: namely, the delusion of the "unpardonable sin" in Case III.

The painful emotional state is equally severe and distressing in all three, but in Case I, who is least intellectual, a plain matter of fact woman, a Catholic, with the certain consolation and faith in the remission of sin by the priest after confession and penance, we find no attempt to explain her mental unrest and misery by misdeeds in the past. These have been confessed and forgiven; her thoughts are no longer closely associated with them, hence do not dwell on them. She has no delusions, but simply complains of feeling so wretched and restless.

In Case II, with more varied emotional experience in her religious life, we find, besides the misery and disturbance in feeling, a sensation of oppression in region of the epigastrium, and marked, even grave anxiety, with foreboding of calamity and doom, about which she is in doubt and uncertainty, a morbid mental state which would prove fertile soil for the development of melancholiac delusions, were it not that she is subject to respite. She, more than the others, has periods of remission in the intensity of her disorder, and even during several days or a week at a time she is quite comfortable. During these intermissions she is enabled to rehabilitate her mentality according to normal standards.

But it is in Case III we find, in addition to the suffering in feeling, also grave involvement of the sphere of thought. The delusion of having committed some grave misdeed, even the unpardonable sin, and also of being possessed by an evil spirit, is unquestionably reared on the morbid and painful state of the feelings as a basis, and certain well defined traits in her previous life and personality enter as factors. She is the most intellectual of the three, and as the daughter of a clergyman of an orthodox and straight-laced religion she early acquired and incorporated ideas of original depravity, obstruction to the Holy Ghost, and demoniacal possession with her stock of associations. Hence, when disease produced such a painful and torturing state of the feelings, to her logical faculties otherwise inexplicable, what more natural than that with her previous training in certain religious lines of thought she should endeavor to explain her suffering as punishment for sin, and the anxious foreboding as a foreshadowing of everlasting doom.

Thought and feeling are in reciprocal relation. Feeling by association influences, colors, even calls up thought; thought, on the other hand, likewise by association of past experience in memory, gives rise to feeling. In this manner a vicious circle has been established in Case III. The morbid, painful feeling gives birth to the distressing delusion of being forever lost, which in turn revives and intensifies the already existing anxious emotional state to one of utter terror and despair. As is so characteristic in painful states of feelings, the vital processes of the body are depressed and disordered; the nutritional functions are impaired; appetite is lost; digestion is poorly performed; excretion is deranged and defective; respiration is shallowed, and circulation weakened. The patient is thin and emaciated, autogenic poisons circulate and influence the central nervous system, already suffering from deficiency of nutriment in the blood. The disorder is then not so simple as it appeared, but consists of disarrangement and impairment in the functions of all the important organs mutually interdependent as a closely linked chain for the carrying on of life and mentality.

Equally important and fundamental is the rôle played by impairment and disorder of feeling in other forms of insanity. But I can here only briefly refer to this as it is manifested in the genesis of dementia præcox, especially in hebephrenia. In the hebephrenic, for instance, the earliest and most persistent abnormal trait is "lack of interest." Now, interest is the close and intimate association of a thought and a feeling. We are interested in a matter in direct ratio to the degree of intensity of feeling invoked in us by the thought, and our reaction to it by the will is also dependent on this intensity. What is first noticed in the young hebephrenic is a lost of zest, animation, and ambition, and an indifference to matters of ordinary concern. This apathy or dulling of the feeling grows and persists as a cardinal symptom throughout the disorder. Emotional vagaries, or even normal manifestations, are most easily explained if we accept the James-Lange view of emotional genesis, and remember the close connection, I may say dependence, of feeling on bodily condition.

I am personally convinced, after considerable observation and study, that our feelings have ultimately their foundation in that same great nervous system in which the inception and maintenance

of our life is founded, the sympathetic system, which governs and regulates automatically without the dictation of the conscious will, all the important vital processes—thus circulation, digestion, and nutrition, elimination, and, be it not forgotten, procreation—for in extension of my argument, remember the profound and far-reaching influence of our sexual life in the makeup of our personality. Indeed not far wrong is the popular psychology which speaks of the heart and the head when referring to feeling and thought respectively. The language of civilized man is full of references to the vital organs when speaking of the various feelings. Our songs (with music most expressive of emotional life) are full of it. While the stomach and other organs are not slighted, the heart is the most in evidence. We say "cordially," or in Saxon "heartily," when we wish to express intensity of feeling. We speak of a broken heart, though the one injured feeling to which it refers had its inception originally in the hypogastric plexus. Our sayings are the concentrated experience of our race. Furthermore, we can obtain abundant evidence to sustain our position in the field of pathology. The feeling of smothering and apprehension observed in the cases of melancholia quoted, notably in II and III, was, so far as could be determined, exactly like the distress and anxiety I have found such an alarming feature in angina pectoris. The feelings and sensations I experienced in suddenly beholding a beloved being in mortal peril promptly recalled in memory those of a solar plexus blow I received years ago from the pommel of a saddle when my horse fell with me.

In the etiology of involution melancholia we find the same factors observed by Abrams to be causative in splanchnic neurasthenia, or the "blues," *i. e.*, atony of abdominal muscles; reduced intra-abdominal pressure; engorgement of the great abdominal veins; asphyxiation of the abdominal nerve centers in the great sympathetic; hepatic venous engorgement, resulting in functional inadequacy, and consequently permitting the passing into the blood current of toxic principles (which are in health changed and rendered innocuous in the liver) to the distress of the lower ganglia and certain cortical brain cells. In the melancholiac we find all these conditions, only more pronounced and persistent, and besides he no doubt receives in his sensorium more or less

emphatic and continuous messages of evil direct for the great solar, cardiac, hypogastric, or other sympathetic plexuses of nerves, though he may not be aware of it. It is significant that this particular trouble begins in middle life when the muscles weaken or become fatty, the abdomen flaccid and pendulous, permitting dragging on the mesentery and sucking in and stagnation of the blood in the great veins of the abdomen.

There is with me no doubt that the organic sensations, arising mostly in and conveyed in part at least by the sympathetic, play a fundamental rôle in the production of our feelings, as well as in the construction of our personality.

Constantly day and night messages of good, bad, or indifferent import are sent to the brain, and these produce changes in the lower basal ganglia, as well as cortical neurones, according to Flechsig and Lugaro, with whom I agree. Ordinarily, and in health, the result of this continuous bombardment remains below the threshold of consciousness, but it influences, nevertheless, our moods and fluctuating feelings, which are based thereon. The subconscious regions of our mind also extend down into and involve the great seats of organic life—ultimately the difference between the optimist and the pessimist, a Leibnitz or a Schopenhauer, for instance, is one of supra and subdiaphragmatic adequacy, or perhaps of efficiency of the sympathetic.

Feeling is a primary and fundamental ability of the mind. It had its rise in the first dawn of consciousness way back in the hoary past, when the oft quoted amœba became aware that some influence was favorable, hence agreeable, and another unfavorable, and, therefore, disagreeable to it, and took measures (motor reaction) in consequence. The ability to realize pleasure and pain, and to react accordingly, has been the one guiding and protecting principle of life. Long before the young babe has thought, or reacts to impressions coming from without, it is aware of what is conducive to its welfare, or its ill being, and responds by characteristic activities.

Feeling is given immediately in consciousness and may serve as the firm monument from which we take our departure in search for the Real. Descartes might more aptly, and with equal justice, have said: I feel; therefore, I am.

THE LEGITIMATE USE OF PSYCHIC INFLUENCES IN THE TREATMENT OF THE SICK.*

By HENRY C. EYMAN, Massillon, Ohio.

In 1866 Sir James Paget wrote to Sir Henry Acland as follows: "What unsatisfactory cases these are. This clever, charming and widely known lady will some day disgrace us all by being juggled out of her maladies by some bold quack, who, by mere force of assertion, will give her the will to bear, or forget, or suppress all the turbulences of her nervous system." This is a confession of incompetency on the part of these eminent physicians. And how frequently to-day do we observe exactly these anticipated results. How many physicians present who have not had just the experience these eminent men feared? Do you know that we, as physicians, are largely responsible for the measure of success which has always accompanied isms and cults of all kinds? We are all ready to admit that the mind exercises a large influence over the bodily functions, but many of us have failed to harness this knowledge and utilize it to the full in the treatment of our patients. We do not quite agree with old Dr. Fowler: "Imagination makes sick or well *ad infinitum,*" but we all do know "that if a man is so ill as to think he is ill when he is not ill, he is very ill indeed." It has been said that some physicians when they wish to imply that a patient's symptoms are unimportant, call them "nervous"; if they wish to ticket them as unworthy of consideration altogether they call them "mental," and if they want to brand them as quite absurd and out of the pale of human sympathy or medical effort, they call them "hysterical." Until recent years doctors quite failed to distinguish between imaginary ills and ills of the imagination. We who chance to be thrown daily with both these classes readily see the important difference. It seems very plain that the imaginary ills should be ills that a patient *had not,* and that ills of the imagination resulted from diseases which he *had.* When a patient imagines he is ill, the legitimate means of ridding him of this idea, whatever this may be, will effect a cure; but you will say how cure one not ill. Remem-

*Read at the sixty-eighth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., May 28-31, 1912.

ber "when one is so ill that he thinks he is ill when he is not ill, then he is very ill indeed." At the risk of being branded unorthodox I make this statement, that seven-tenths of the diseases treated by the physicians do not need drugs to effect a cure. A Baptist clergyman gives us this picture which will answer for the whole human race. "He is a worried and fretted and fearful man; afraid of himself and his propensities; afraid of colds and fevers, afraid of treading on serpents or drinking deadly things." We have always been loth to believe in the hierarchy of the mind. While all of us can give instance after instance where this most important fact has been thrust before our vision, yet we are prone to explain them away on some ground other than the influence of mind over matter. The public attaches extraordinary value to the "cure," and does not pay particular attention to diagnosis. In fact the thing which matters is, that, whereas John was sick, now he is well. He was in the slough of despond, away down in the valley of despair, now he is basking in the splendors of the sun-kissed mountain top. It is results the people want. The particular hocus pocus or formula by which it is brought about is not interesting, except as made so by the unscrupulous quack, with his incantations and his positive assertions. Now what makes this picture possible? Has quackery any real power which you do not possess? Or is it that his very boldness, his force of assertion is something to which you will not condescend? And to use Sir James Paget's words, is the patient "juggled" out of her illness? Now, if it be granted that the vast majority of the ills of mankind be due to fret and worry and anxiety and the fear of breathing deadly microbes, then the Christian Science faith must be credited with doing some good in the world. If he has put all fretting and anxiety under his feet he does have a victory. What does Christian Science do and how? "It enables a man to watchfully and diligently divert his mind from unhealthy channels and compel it to travel in healthy ones." And it will not suffice for us to dismiss this idea as ridiculous, absurd and without importance. Here again we must harness this modicum of truth and compel it to do legitimate work in harmony with real science in every other line. It was considered perfectly professional and proper for a physician a few years since to give 15 to 20 grains of calomel to the patient at a single dose, in order to relieve from sluggishness that

greatly overworked organ, from a professional viewpoint, the liver: and equally as marvellous as some of the present day "isms" seem, the patient got well. If a Mrs. Eddy steps in, and, using a grain of truth and real science, and a ton of jugglery and pseudo-science is able to sound depths of the emotional life entirely unsought for by us, and in consequence not only attracts a large following, but in many instances does get results, I say if this is done, and we content ourselves with poking fun at their methods, and make no effort to separate, for edification of the people, the real from the false, then are we certainly culpable, and are really aiding the various isms and cults to thrive and flourish and, alas, frequently to destroy. The wise physician must grasp the underlying unity of the spiritual and material, and recognize that if the "body may and does influence diseases of the soul, so does the mind influence states and diseases of the body." The most eminent and successful physicians have all been psychologists. Many of our best practitioners are, perhaps, what we might term unconscious psychologists, aye, even unconscious hypnotists. Mere drugs without the soothing touch, the kindly encouragement of the physician in whom the patient has confidence, accomplish but little. Success or failure in a practitioner depends as much upon his expertness in moral and psychical treatment as on his skill with drugs. The personal equation of the physician enters into the treatment of every case, and often unconsciously so. I believe some of the greatest results in so-called psychic therapeutics are accomplished by physicians who do not themselves realize their mental influence over the patient. I may be pardoned if I refer to a few cases under my own observation. While in charge of the State Hospital at Newburg, I was one day passing through the wards with a medical friend. Upon entering one of the disturbed wards we found a patient lying on the flat of her back kicking and striking violently at the nurses who were trying to persuade her to arise and go out walking with the other patients. Stepping to her side I spoke kindly, but firmly to her; told her she must get up at once; that she was acting childishly, and that she should obey the nurses. Instantly she ceased her violent efforts, arose to her feet and announced that she was ready to accompany the other patients. My medical friend said to me, "Now what did you do, did you hypnotize her?" I had

no knowledge of anything of the kind. Another day, in passing through the wards with a number of bankers, we entered a ward in which a young lad was crying out, and making facial grimaces and contortions in a very repulsive manner, which the attendant stated had been kept up for several hours. I spoke to him and asked him to come to me. He immediately complied, when placing my arms about his neck I explained to him that he was disturbing the ward, and injuring himself. He at once promised to cease, went to a chair, sat down and smiling pleasantly bade me good day.

My friends in this instance insisted that I had used hypnotic influence, but if so it was unconsciously done.

And so I might enumerate case after case of this kind, and so might all of you, but these will suffice. One other instance, illustrating the influence of suggestion upon the mind, and in consequence a modification of the function of the neuron. Ellen H., committed to the State Hospital as suffering from suicidal melancholia. She was apparently unable to talk, would wring her hands, walk the floor and had an agonized expression of countenance. At first she refused to eat. Gradually the condition of melancholia subsided, and after three or four months treatment she became fairly cheerful, would carry on conversation by means of pencil and tablet which she constantly carried with her. She was urged to talk, but insisted that she could not. She was even deprived of pleasures which she could have had for the asking, but would shake her head and refuse to make the effort. Would write her requests on a tablet, and when told they would be granted if she would ask for them, would sadly shake her head and relinquish the idea. This condition continued for fourteen months. We had thoroughly satisfied ourselves that the throat muscles and vocal cords were not diseased, and that her inability to talk was purely an imaginary condition. I had the assistant physician state to her that next day I would begin a treatment which would relieve her in 48 hours. Next morning, accompanied by several members of my staff, I went to her ward, and told her that after consultation we were satisfied we could cure her, but that she would have to go to another ward. Very solemnly we marched to a front ward, ushered her into a single room, and closing the door told her that the first lesson would be given next morning, and that she could enunciate monosyllables immediately there-

after. These things she pondered on until next day. We visited her with much cheer, and immediately began to manipulate the throat muscles. Then firmly said to her, now you can say "yes." She said "yes" distinctly, and before the lesson was over spoke any monosyllabic word she was told to utter. We then told her to continue her efforts, and that by the succeeding morning she could talk as well as anyone. Next morning, when we reached the ward she met us at the door with a perfect volley of questions, and to use the expression of the nurse, "she could out-talk any woman on the ward." Now, was this charlatanry? No, it was but the application of suggestive therapeutics to the treatment of functional disorder. Every physician present to-day, at least suspects that he has something about him which is of value to his patient over and beyond the outward and visible sign of his faith in drugs. And there is a consciousness too in every actual or potential patient that there is something about his doctor that does him more good than the physic, which indeed he sometimes surreptitiously throws to the dogs. And the doctor he likes is the one he sends for, although Dr. X may have a greater scientific reputation.

Don't you know that you are sometimes surprised by the peculiar success and phenomenal rise of some medical brother, perhaps your classmate, and a man whom you know to be a mediocre, and are you not prone to ascribe his success to "cheek," or "push," or possibly some form of advertisement, which of course you abhor, and you absolutely ignore the real reason of his success which lies in his strong individuality, and the use of the mental factor in medicine, and whether consciously or unconsciously, benefits his patients' bodies by influencing their minds. It is his enthusiasm in his work that overflows, and is contagious. Genius is not mere capacity for hard work. Hard work done without enthusiasm never stirred the pulse of the world nor fired a human heart. "Genius is the child of enthusiasm, but it remains a child and dies mute and inglorious unless clothed with action and crowned with persistence." Mental force, why I tell you that intense optimistic thought is a mental dynamite which blasts an opening through impassable rocks. But you must meet the rock with the realization that the opposition is there. True optimism and enthusiasm will say, "This rock is formidable; it will require all my force to open a way through it, but I can and will." This is

the true force in mental medicine. The Christian Scientist says, "There is no rock, no obstacle, the way is not closed. I will wait, I need not disturb myself, there is no matter." And while the false may survive and flourish for a season, truth must prevail, because the purpose of creation is that every atom shall work out its own individual destiny by individual effort, and herein lies the weakness of all the isms and cults which ignore this great overwhelming fact. Until this fact is recognized all isms must go down before the wheels of progress. Suppose the housemaid were told to clean the dirt from a certain room, and she would look at it and say, "I see no dirt, there is no dirt there, there is no matter," would her ridiculous statement be accepted, even though her employer be a leader in the cult? An undiscriminating optimist called upon a friend during a terrific downpour of rain, accompanied by much wind. He stalked into the best room, admitting with him a gust of wind and rain, and cheerfully stated that the day was exceedingly pleasant, while streams of water ran off his clothing onto the best carpet. While thinking about the disagreeable necessity of cleaning up after the caller had left, another caller entered with the remark, "A —— disagreeable wet day," prefacing his modifiers by a word not optimistic. A touch of profane pessimism makes the whole world akin occasionally. As a fair example of Christian Science optimism I should like to quote an incident related by Mark Twain.

"A little far western girl friend of mine, equipped with an adult vocabulary, states her age, and says 'I thought I would write a demonstration to you.' She had a claim derived from getting flung over a pony's head and landing on a rock pile. She saved herself from disaster by remembering to say 'God is all,' while she was in the air. I could not have done it, I could not even have thought of it, I should have been too excited. Nothing but Christian Science could have enabled that child to do that calm and thoughtful and judicious thing in those circumstances. She came down on her head, and by all the rules she should have broken it; but the intervention of the formula prevented that, so the only claim resulting was a blackened eye. 'Monday morning it was still swollen and shut. At school it hurt pretty badly, that is, it seemed to." So I was excused and went down to the basement and said, "Now I am depending on mamma instead of God,

and I will depend on God instead of mamma."' No doubt this would have answered; but to make sure she added Mrs. Eddy to the team, and recited 'The Scientific Statement of Being,' which is one of the principal incantations I judge. Then 'I felt my eye opening.' Why dear, it would have opened an oyster."

I only give this because it so aptly illustrates my position on the subject of indiscriminating optimism, and how really meritorious methods may be brought into disrepute by the over zealous and the foolish. How far the emotions, imagination, expectation, faith, hope, joy and terror may control the bodily functions has not yet been determined. You all remember the story of the doctor who left his prescription on the table for a lady who suffered from pleurodynia, saying, "Put this to your side," and how the patient literally did so, instead of obtaining the prescribed plaster, but in spite of the mistake derived great benefit from the application. Ferrarius cured fifty cases of ague by slips of paper upon which he had written the word "febrifuge," and gave them to the patients with the instruction that they should cut off one letter each day. Many of his patients were cured by the time the sixth letter was cut off. Epilepsy by great mental shock may be cured. I have seen seizures aborted by sudden fright. A lady who had been a sufferer from epilepsy for a great number of years received so severe a shock upon beholding her beloved daughter die from the effects of dreadful burns, that she never had another attack. Clonic or tonic spasms may be produced or terminated by the imagination. Contractures of long standing succumb to the mental factor. Dr. Bertrand gives an account of a contracture existing for 38 years, only to be opened by a charlatan. A few years since I was called to see a young man in an adjoining county, who would have severe spells in which his fingers would lock around anything they happened to encircle at the time of attack, and no force seemed sufficient to unlock them. Electricity was tried, and the contracture was readily overcome. This condition had existed for several months before I was called, and so frequently did these spells occur that his family had bought a little electric battery, which was kept just to unlock his fingers. He very graciously had one of these "spells" while I was examining him. His fingers clinched so tightly that gashes were cut in the palms of his hand by the nails of the fingers. His brother immediately ran for the electric bat-

tery. I heartily concurred in its use, and while the vibrator was allowed to hum as usual, I quietly disconnected the poles from the battery, and the happy result was accomplished the same as usual. I told him he could be cured by an operation, and advised them to go to a noted surgeon in Cleveland. I then wrote to the surgeon explaining my views of the case, and advised that an anesthetic be given and a scalp wound made. This was done shortly after, and until this day he has had no recurrence. Burton has made this pithy observation, "An empirick oftentimes, or a silly chirurgeon doth more strange cures than a rational physician." I do not know why he classes the chirurgeons with the quack.

"'Tis opinion alone that makes or mars physicians and he doth best cures in whom most trust." Patients have been known to experience relief from great distress the moment the thermometer is placed under the tongue. There is no limit to the various kinds of ills which can be, and have been, cured by trick or jugglery or imagination, or the influence of the will, but the real diseases which attack and destroy cell tissue need something more than incantation.

> "The surest road to health, say what they will,
> Is never to suppose we shall be ill.
> Most of those evils we poor mortals know
> From doctors and imagination flow."

How sad that the writer of such beautiful verse should have died of fever at the early age of 34 years.

The time seems ripe for a new specialty, a specialty which shall include in its vast sweep every physican entitled to the confidence of the people. A specialty which will make physicians study men as men; to master the marvellous intricacies and dependencies of spirit, soul and body; and to be skilled to know when and how to call on the one to help the other. We can no longer ignore the spiritual element in man, and the almost absolute control it has over the vast number of diseases due to disorders of the circulation, the digestion, and what we might term neuronic kinks. The modern doctor must understand the pathology and hygiene of the intellect. There can be no doubt that the fields of psycho-physiology, psycho-pathology and psycho-therapeutics are as yet almost untouched. We have been too prone to leave the study of the influence of the mind over bodily functions, or the influence

of the emotions, if you will, to the philosopher, the priest and the alienist. We must study not only the influence of the mind upon the body, but also that of the body upon the mind. We must search out and understand the mental and moral as well as the material causes of disease. Medical psychology belongs not only to the alienist or psychiatrist, but to the general practitioner as well. All honor to our hard working investigators who have added vastly to the sum of medical lore. I have nothing but words of praise and highest commendation for the general practitioner who, during the long country drives, works out many problems in clinical therapeutics, and to the original research work of the pathologist and bacteriologist I bow in admiration, but what we want more than any other thing at the present time is, in the language of Sir Crichton Browne, a "something corresponding to those splendid flashes of imagination which yielded the heliocentric theory of the planetary system, the theory of gravitation, the undulatory theory of light, the theory of evolution and the germ theory of infectious disease." Some fundamental and far reaching generalizations in pathology and physiology which would vivify and vitalize some part at least of the mass of dead material facts which have been accumulated. We must not allow trickery and quackery to thrive on false assumptions of their so-called powers of the mind, but in the language of the great Tuke, "We should not hesitate to utilize this force, to yoke it to the car of the son of Apollo, rescue it from the eccentric orbits of quackery, force it to tread with measured step the orderly paths of legitimate medicine."

We treat the stomach, the lungs and the heart
As if these three things were set apart;
We treat the kidney, the liver and feet,
And all the while ourselves we cheat.
We sneer at our brother (I beg pardon, please),
And haply think we are treating disease.
We work along the well trodden plan,
And somehow forget we are treating a man.

THE ROLE OF THE NERVOUS SYSTEM AS AFFECTING THE SYMPTOMATOLOGY OF DISEASE, AND THE INFLUENCE OF DISTURBANCE IN ITS FUNCTIONS ON MORBIDITY.*

By H. A. TOMLINSON, M. D., St. Peter, Minnesota.

Through a number of years of observation of the symptomatology of disease, both in the sane and in the insane, I have noted and recorded certain manifestations that seem to me to vary in their incidence and prominence according to the condition of the general nervous system in the individual, and to bear no definite relation to the disease condition present or to be influenced by its severity. These clinical observations have been supplemented by studies made post mortem; so that there has been the opportunity for comparison between the symptoms, physical signs, and other evidences of morbidity, with the disclosures at autopsy. The conclusion has been reached, as the result of these observations and comparisons, that the nervous system has a more considerable influence than is credited to it usually, in determining both the symptomatology and the morbidity of disease in the individual, and, that, therefore, a careful study of the functional capacity of the general nervous system should be an essential part of the examination of the person who consults us; and particularly so if he is suffering with chronic disease. I do not mean that the examination should contemplate only the routine search for evidence of sensory or motor involvement, but that our efforts should be directed principally to the determination of the potentiality of the nervous system as a whole.

It is a matter of common observation among the insane, that the subjective symptoms of disease are never conspicuous, and may be absent entirely.

We have numerous records of the disclosure of conditions post mortem, of which there was no subjective sign during life; and also of the maintenance of fair health and considerable activity in the presence of disease conditions that, among the sane, would have a very painful sequence of symptoms, and an early fatal

*Read at the sixty-eighth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., May 28-31, 1912.

termination. To illustrate: Among the demented insane who are tuberculous, the subjective symptoms of phthisis are practically absent, and the morbidity of the disease is much less. It is not at all uncommon to have persons committed to the hospital with well-advanced pulmonic phthisis, that has not been recognized, or presented symptoms sufficiently marked to attract attention from the mental disorder. To quote from a paper by the writer, on disease of the lungs among the insane: "The peculiarities that mark the progress of phthisis in the insane are the absence of pain and dyspnœa, the infrequency of cough, hemorrhage and expectoration, and the general absence of symptoms referable to disturbed respiration; our attention being called to the case by progressive loss of weight, weakness, emaciation, elevation of temperature, and sweating. The course of the disease is very greatly prolonged, as the rule. Even after the patient is put in bed, he may continue a merely vegetative existence for a year or more; and, post mortem, the anterior margins of the lungs only will be found to be crepitant." Again a patient may come into the hospital very much disturbed and sleepless; and if these conditions continue he will become more and more emaciated; especially if his disturbance results from painful impressions through the special senses, in spite of the fact that he may take a large amount of nourishment. However, when mental deterioration reaches a certain degree, even though the disorder continues, the patient begins to gain in weight and strength, the digestion improves and the bowels move regularly. That is, so soon as the higher functions of the brain are suspended, and the dominance of the psychic element removed, the vegetative organs tend to function normally. On the contrary, in general hospital experience, and in private practice, it is not at all uncommon to find both the subjective symptoms and the morbidity of disease out of all proportion with the extent and nature of the organic involvement. Indeed the involvement of the nervous system not only increases the severity of the illness, but renders the prognosis more uncertain. It is true also that the man with considerable clinical experience, who has the opportunity to become familiar with the family history of his patient, and to know how he reacts to the untoward conditions in his environment, will be governed largely, both in his recognition of the morbidity

of the disease process in the individual, and his prognosis as to the outcome, by what he knows of the influence of the higher function of the nervous system upon the somatic activities. He may not consciously make a formal analysis of these relations, but he appreciates them, as is shown by his management of the case.

The writer has had the opportunity to observe the incidence of tuberculosis among milch cows for a number of years, and also the development of tuberculosis in a herd of deer. The herd of cows, a mixture of thoroughbreds and grades of all kinds, had been under observation for a long time. They were classified, for purposes of observation, according to the evidence of nervous phenomena, as shown by the disposition, response to food, environment, and the attitude of the caretakers upon the secretion of milk. It was found that those animals that were thoroughbred, and particularly where the ancestors were known to be excitable and unruly, succumbed most promptly to tuberculosis; also that the highly bred animal could be very easily upset, with loss of appetite, suppression of the milk secretion, and the development of diarrhœa of partly digested food, if subjected to excitement from rough or careless handling; whereas, the ordinary scrub animal, used as a control, remained comparatively unaffected. The herd of deer referred to had for a long time been maintained in good condition by the infusion of new blood. Then for a number of years, inability to get a buck from an outside herd resulted in persistent inbreeding.

The deer were and had been kept for a number of years in a yard, where, in the spring and after heavy rains, there was overflow from the barn yard. Three years after the inbreeding began, a doe and two fawns died, and were found to be tuberculous. Within five years the herd was exterminated. Similar phenomena with relation to inbreeding and susceptibility to untoward influences have been observed among plants in the field, the greenhouse, and in the garden.

Numerous examples might be given from our case records of the converse of these tendencies; that is, the modification of the morbidity and mortality of disease among those in whom the so-called higher psychic functions have been more or less completely eliminated by dementia. The following abstract from the

history of a conspicuous example will suffice: C. S., who had been working regularly daily for 25 years, who had never missed a meal or complained of illness, was noticed to be weak, and suffering with dyspnœa. He complained of pain in the chest, and the bladder was found to be empty. He soon began to vomit, the lungs filled, and he died at 10.15 p. m. Aside from the evidence of renal involvement, there was found in the stomach wall along the greater curvature, a tumor involving the pyloric end of the stomach. The tumor was a carcinoma. The balance of the stomach wall was thickened and infiltrated with fat. There was carcinomatous involvement of the pancreas also. The changes in the kidneys were, as was to be expected, amyloid; while the heart and lungs showed marked fibroid change.

Gaskell[1] says: "The great factor in evolution throughout has been the growth of the central nervous system." I would add to this statement the evidence in biology that the functions of the central nervous system have evolved as the need for them has developed, and that the differential morphology has been determined by the functions of its parts, just as the relations of its mass have been fixed by the development of its bony envelope. Further, that while there is no morphological difference between the cellular elements in the central nervous system in the newborn child and in the adult, there is a very great difference in their functional capacity; and this functional capacity varies widely between individuals, with the result that the incidence of disease, and the morbidity of disease conditions, will be influenced greatly by the potentiality of the nervous system in the individual; that is, by his power of resistance. A group of individuals living under similar conditions respond individually very differently to the morbidity of disease conditions present among them, and we accept this fact without inquiring into its significance, just as we are prone to attempt the formulation of a diagnosis of the incidence of disease by studying the organ most conspicuously involved, instead of investigating the organism as a whole.

The part played by the nervous system in the symptomatology of general disease is usually either misunderstood or ignored. General practitioners and those specialists whose work brings

[1] Gaskell: The Origin of the Vertebrates.

them in contact with the motor and sensory manifestations of disease in the nervous system, rarely take into consideration the relation of the higher functions of the general nervous system to the disease they are called upon to treat, or the influence of the general disease upon the special functions apparently involved, their constant reaction upon one another, or the influence of lowered nervous tone in retarding and sometimes preventing reaction from general somatic disturbance or special visceral implication. The nervous system is the avenue through which disease becomes apparent, and the morbidity of its incidence will be in proportion always with the extent to which the nutrition of the nervous system is interfered with. This is well illustrated by the effect of acute intestinal intoxication upon the nervous system, and the intoxications accompanying chronic somatic disease, particularly disease of the kidney. It is shown also in the so-called trophic involvement of the eye and the joints, after severe exhausting disease in childhood and during adolescence, where the history of the case shows that there is instability in the nervous system, as indicated by weakened resistance to the incidence of disease, or the untoward effect of conditions in the environment.

In the distribution of labor among the different vital organs, each one either furnishes its share toward the nutrition of the whole, acts as a carrier of nutriment, or is engaged in the elimination of waste material from the organism; while the nervous system, taking no direct part in any of the vital processes, directs them all, yet is entirely dependent upon the rest of the organism for the means to maintain its activity and eliminate the waste involved. It follows, then, in order that the nervous system may maintain its integrity, all of the vital organs must function normally; and as the corollary, that if they do not fully perform their functions, the nervous system must suffer to the extent that it is deprived of nutrition, or fails in having its waste products carried away. Consequently, if such impairment results, we need but to consider the biological relations of the nervous system to appreciate that the power to direct the somatic activities is lessened, and the other organs are further prevented from functioning normally; while any one that is diseased will have its potentiality further reduced by the impairment of nervous function, and will, in its turn,

to that much greater extent interfere with the proper functioning of the nervous system as a whole. While unicellular organisms have a nervous organization, only the comparatively complicated multicellular organisms have a central area with the functions of correlation, co-ordination, and direction. Therefore there persists in each organ in the most complicated organism a cellular automatism that enables it to maintain its activity; and this fact accounts for the belief, so strongly asserted, and apparently demonstrated, that the persistence of functional activity in certain organs, after they are separated from the central nervous system, argues, or even proves, that these organs are independent of the central nervous system in their functioning. It is true also that experiments on the lower animals would tend to strengthen this belief; because, when they are deprived of the influence of the central nervous system, the somatic and even the general sensory and motor functions continue to be performed apparently normally. However, in this conclusion the facts of evolution are ignored, and there is the fallacy that the lower and the highest are compared without experimental evidence that the highest will respond as does the lower. To quote Gaskell[2] again: " . . . the law of evolution teaches that in all cases brain power wins. . . . In all cases, upward progress is associated with the development of a central nervous system." Besides, it is well known that in the highest forms of animal life the central nervous system cannot be separated from the spinal without destroying life. When we compare the new-born child and the lower animals with the fully developed human being, with regard to either the morphology or the functional capacity of the central nervous system, we cannot help but see that the whole tendency and direction of development has been toward the control of the somatic activities, and their domination by the higher functions of the brain. It would appear, then, from these observations of the relationship of the nervous system with the rest of the organism, that while the visceral disease may be the most conspicuous, it is not the most important, because the persistence in the involvement of the nervous system is the main factor in keeping going the constitutional disturbance; for we must not forget that we recognize disease conditions by

[2] Gaskell: Vide supra.

their general effects, which we see first, our attention being called to the special organ involved by the perversion in general conditions the result of its aberrant functioning. Furthermore, we recognize the return to the normal in the functioning of the special organ by the subsidence of the general symptoms. These general symptoms, too, are most commonly manifestations of disturbed or perverted nervous functioning, such as weakness, pyrexia, headache, pain, insomnia, restlessness, irritability, and emotional disturbance.

The simplest manifestations of disease that we are called upon to deal with are the general disturbances connected with indigestion and constipation. Beginning with children, because in them the nervous system is most unstable, I need not tell you how widely different will be the degrees of general disturbance produced by the most simple perversion of function, varying from restlessness, pain and vomiting, with slight fever, to hyperpyrexia, meningismus, convulsions, coma, and even death. Why this difference? Observation will show that it results from varying degrees of instability in the nervous organization of the child; so that the toxic substances, in the most stable nervous system, act as an irritant only, while in the most unstable, the toxemia produces violent explosions of nervous energy, exhaustion and paralysis. The exanthemata, in their turn, produce widely differing degrees of nervous disturbance among children, and we commonly say that in this or that case the nervous symptoms were most marked. But why? Suppose, instead of contenting ourselves with the observation of the immediate disease condition, we study the history of the child from birth, the character of the labor in which it was born, the condition of the parents at the time of conception, the health of the mother during pregnancy, and while she is nursing the child, the life history of the parents and their relatives, both direct and collateral, the history of the first two years of the life of the child, both with regard to the presence of conditions that disturb nutrition generally, and of physical disease accompanied by prolonged high temperature; we will find that, just as the children differ widely in the proportion of constitutional or acquired causes of irregular or unstable development, there will be the varied manifestations of nervous involvement. The plastic cerebral mass reacting more and more excessively

and to slighter stimuli, according to the degree of instability in the constitution of the nervous organization. It is well to bear in mind also that excess is as much a defect as is deficiency, and that the most highly organized is the most unstable; so that precocity, either physical or mental, is the evidence of imperfect organization. During the whole period of development, up to and beyond puberty, the disturbance of the nervous system is a constant factor in any form of general disease, and its manifestations are conspicuous always. During the two principal epochs in the development of the child, this is especially marked, *e. g.*, during the second dentition and at the period of puberty. Often at these periods the foundation is laid for arrested or irregular development, because of the failure to recognize the relation of the nervous system to general disease, and the interdependence of perversion of function common to them both.

Maudsley[3] says: "How far each visceral or thoracic organ can, like the sexual organs, determine its specific mood or tone of feeling directly, and indirectly its accordant manner of thought, and how far therefore each may determine the character of the dream of sleep or the delusion of madness, it is impossible to say with any certainty. But it is conceivable that all visceral organs may have their several relations with modes of feeling, as definite and constant in character as the relations which the special senses have with forms of thought. Certainly the moods of feeling and thought which accompany disease of the lungs are very different from those which accompany abdominal disease; and inflammation of the gastro-intestinal mucous membrane, notably occasions a gloom and anxiety which are not felt in inflammation of the bronchial mucous membrane. Speaking generally, there is a tone of despair in disease of the abdominal viscera. The surgeon who, having performed an operation upon the abdomen, has in mind the possible occurrence of peritonitis, views with apprehensive alarm a look of anxiety in his patient's countenance, before he finds signs of local inflammation. Hitherto the mental symptoms of bodily disease have not been studied systematically, and one may search through treatises filled with elaborate description of symptoms, courses and morbid anatomy of them and not discover

[3] Maudsley: The Pathology of Mind, p. 153.

that they have any mental symptoms at all. Nevertheless patient and accurate observation of them might be of great scientific value."

The history of the primary degenerations occurring during adolescence which come under our observation, abundantly proves this relationship between general conditions and perversion of nervous functioning, the beginnings of which are seldom recognized, and even if recognized, not appreciated until too late. Irritability and restlessness, headache, violent explosions of temper and imperious wilfulness, with incapacity for continuous effort tell their story, as do their opposites: lassitude, dullness, stupidity with confusion, perverted appetite, constipation and abnormal sexual excitement. Happily these conditions are usually temporary, but often, unfortunately, they subside for a time only, to reappear in exaggerated form during late adolescence and early adult life, as concomitants of disease of the pelvic organs in women, manifesting themselves in neurasthenia and hysteria; although some women escape until the exigencies of social competition or the strain of maternity bring on some form of nerve storm or permanently sap the resistive power of the nervous system. In men the results are less varied in type, but more disastrous in themselves. The craving of the unstable constantly warring nervous system gives its victim no rest, with the result that he yields easily in every direction; the morbidity of any disease condition is increased, he becomes the victim of alcohol or narcotics easily; his lack of self control leads him to sexual excesses, with the resultant deterioration, and the development of chronic degenerative changes. Numberless minor perversions occur that become apparent only when looked for, and which are accepted by the family and friends as a matter of course, because they have become used to them. The imperious will that results from the inability to appreciate anything except in relation with self, enables this class of people to dominate their surroundings, and their eccentricities are accepted as a matter of course without thought as to their origin. How do these conditions come about, and why are they so important as factors in relation with visceral and general disease?

I believe it may be accepted as a fact that the principal result of modern social conditions has been the disproportionate development of the nervous system at the expense of the rest of the

organism, without a corresponding increase in vegetative capacity; and the result has been that this unequal development has lessened the vitality of the organism as a whole, and lowered its resistance; while the nervous system requiring a disproportionately large share of nutriment, and failing to get it, has its potentiality lessened and is therefore more unstable without normal relation to the rest of the organism, or, in physiological terms, its irritability is increased, while its capacity for reconstitution is lessened, the result being the continuous tendency to react excessively to ordinary stimuli.

Such being the case with ordinary conditions surrounding the individual, how much greater will be the effect when the conditions are extraordinary?

Besides, as has been abundantly proved by investigation, these conditions that exist as defects in one individual may be produced temporarily by a state of the organism that is sufficient to impair its vitality, and derange the relational activity of the different organs. Even a high temperature, if prolonged, will bring about a complete neurasthenia, while autointoxication from the retention of the waste products of retrograde metabolism, may and does bring about the gravest forms of disturbance in the organism, simulating, and even producing, if persistent, all forms of organic visceral affection, especially in the heart and kidneys.

The fact that the morphological changes in the cortex of the brain and the spinal cord have not been systematically studied in general disease resulting in death, leaves us practically in the dark with regard to the presence or absence of morbid histological changes, and I have not been able to find any reference to bacteriological study of the cerebro-spinal fluid. Until these two methods of study are carried out systematically, without regard to the nature of the disease or the apparent cause of death, there will be no definite knowledge concerning the changes in the nervous system in general disease.

Some years ago the writer, in the course of some experimental work, produced the simulation of different forms of somatic disease in rats and rabbits, trying particularly to imitate the physical conditions present in delirum. Post mortem without regard to the disease condition, the same morphological changes were found, in proportion always with the extent of the exhaustion. That is,

when waste overtook repair, with the consequent failure in reconstitution, there were definite morphological changes, without regard to the cause of the exhaustion. It is reasonable, therefore, to assume that this process of cell exhaustion is going on in every individual suffering from disease, varying in degree according to the amount of interference with nutrition, and aggravated by any source of overstimulation of the nerve cell; while the further effect will be intensified by the reaction resulting from the impaired functioning capacity in the diseased organ. This is especially so if the source of failure in nutrition and the cause of autointoxication are in the alimentary canal. Every practitioner of medicine knows how important free movement of the bowels and activity of the skin are to comfort and sound sleep, in patients suffering with severe illness, and how doubtful is the prognosis when the patient cannot digest and assimilate food. It is well known also how rapidly the man goes to pieces, when he tries to goad the nervous system to renewed activity by the use of stimulants, and tries to relieve the strain by further destroying the capacity for reconstitution in the cerebral cell by paralyzing it with sedative drugs so called.

I believe, from my observation and experience, that the study of disease in general should include the study of nervous disease, because the study of nervous disease is, in its broadest sense, the study of general disease. For the same reason, the study of general pathology is absolutely essential to the understanding of the principles upon which the study of nervous disease should be based. This knowledge is necessary for the appreciation of the relation between the nervous system and disease in general, and for the understanding how the inherent incapacity of the nervous system may influence the symptomatology and morbidity of disease.

THE NATURE OF METASTATIC TUMORS OF THE THYROID.*

By ADOLF MEYER.

A number of years ago there appeared several reports of metastases of normal thyroid tissue or of adenoma of the thyroid gland among which the case of Cohnhein (Virchow's Archiv, Vol. 68, p. 547) has received a criticism by von Recklinghausen (Virchow's Archiv, Vol. 70, p. 153). It may be that the following case which came under our observation may throw some light on this controversy inasmuch as it was at first thought that the case was one exactly like Cohnhein's, whereas, on further investigation, it proved to demand the explanation that Recklinghausen had given.

Born in 1837 in Germany, the patient was admitted to this hospital August 10, 1895, because "she neglects her family and children, uses obscene and vulgar language, and because she had fear of poisoning and walked about aimlessly." She had been a healthy woman up to a few months previous to admission. She had come to this country to marry the widower of her sister.

On admission (August 12, 1895), she appeared quiet and rational, but homesick on account of her inability to express herself in English.

The next note was made January 4, 1896, and reports of a tumor in the upper part of the *right temporal and frontal regions;* there is a bulging of the scalp over a smooth painless tumor, hard at its base and soft, even fluctuating, at its height. The circumference is firmly fixed on the skull; the skin over the convexity is reddened. The tumor is about 10 cm. in diameter. It first *appeared about October, 1894,* and had then the size of a quarter dollar. Of late it has grown more rapidly. There is some *œdema of the right upper eyelid,* of the lower temporal region and of the scalp posterior to the tumor. The *thyroid* is *enlarged,* mostly on the left, and forms a mass about 8 cm. in the transverse diameter. Close to it, and probably continuous with it, though apparently independent, just *above the clavicle,* there is a *glandular tumor* 4 cm. in diameter. It moves with the thyroid in swallowing. The surgeon refused to operate.

January 25, 1896, the patient had an *infraction of her right thigh,* probably just outside the capsule. She slipped a little without falling, and then felt that the thigh gave way. Extension was applied. A month later the right thigh was distinctly enlarged in the region of the tuber, and painful.

---

* This paper forms contribution number six of the Worcester State Hospital (Mass.), Series of 1912, offered in compliment to Dr. Hosea Mason Quinby on the event of his retirement from the superintendence after 20 years of service.

No union was obtained. The "callus" remained large and painful. During the summer she also complained much of pain in the epigastric region. The tumor of the head increased, and from October the right eyeball began to be protruded. An *arterial bruit* could be heard over the tumor from the ear to within about 5 cm. of the sagittal line. In December the pain in the thigh and near the cardiac end of the stomach and the protrusion of the right eye were more marked.

In February, 1897, the *tumor of the head* had increased to the size of 9 x 12 cm.; it was then somewhat nodular, firmly fixed on the skull; the skin was adherent and red; pressure only occasionally painful. The œdema extended over the right eyelid, cheek, temporal region, and behind the tumor to the bregma; the right eyeball was markedly protruded, and the conjunctiva inflamed. The *glands* of the neck had also increased into one solid mass; and also the right hip, which was very painful, had increased considerably in size. In the left third and fourth interspaces the breathing was slightly bronchial. A *systolic murmur* was present with slight extension of the dullness beyond the nipple-line. The pulse was intermittent. A small sacral decubitus had formed.

February 27, 1897 (after a cleaning of the decubitus with creoline?), the patient had begun to speak of there being *smoke in the room,* that people were in the basement who wanted to kill her, and take her downstairs at night and try to smother her. These fears persisted to the end; but the patient was able for a long time to read short stories, talked otherwise sensibly, but was much absorbed by her pains.

May 31, 1897, *vomiting* with increased pain in the epigastrium appeared and it could not be relieved much. She died with a final temperature of 100° June 3, 1897.

The autopsy was made seven hours after death. Body (Fig. 1) of a medium-sized woman, emaciated, with a decubitus of the size of half a dollar over the sacrum. Rigor mortis marked. Very little post mortem lividity.

The *tumified area of the head* extends from the zygomatic arch and the mastoid line to near the median line at the hair limit, to the level of the bregma, with the highest prominence, and with an additional elevation of the size of a hen's egg almost back to the vertex. The hemi-circumference from the glabella to the occipital protuberance is 25 cm. on the left and 29 cm. on the right; the vertical lateral outline of the tumor is 21 cm., the length from the vertex to the zygoma 23 cm. and the horizontal curve 17 cm. The left lobe of the *thyroid gland* is moderately enlarged, but extends into a large tumor of the size of an orange above the left clavicle. The right thigh is bent outward considerably and shortened. The distance from the superior spinous process to the internal malleolus is 82.5 cm. on the left, and only 71.5 cm. on the right.

Panniculus adiposus reduced to a thin yellow layer. Muscles very pale. Abdomen slightly distended. No fluid in cavity. *Stomach* reaching to within three fingers' breadth above the symphysis, and distended with gas and fluid, under the left hypochondrium pushing the diaphragm up to the

FIG. 1. Picture of patient showing the thyroid tumor, the glandular mass on the left side of neck, the tumor over right side of skull and tumor of the hip joint.

FIG. 2. Photograph of the skull and the tumor, showing especially the quill-like osseous thorns extending from the bone to the outside capsule of the tumor.

fifth rib, and the spleen far back and upward. *Pylorus* wide open, distended, leading over into the distended duodenum. Beginning of the small intestines collapsed, but not strictured, containing very little fecal matter. Colon exceedingly thin between stomach and the large mesentery. Diaphragm on right extends to the fifth interspace.

The lungs do not retract. The left one is perfectly free. The right one with *adhesions* along the posterior aspect of the upper lobe.

Left lung 460 gms. with three rather *large bronchial glands,* the continuation of which extends into the hylus of the lung. Apex rather œdematous, also the lower lobes, but containing air throughout, nowhere especially injected. In the posterior part of the lower lobes the pleura contains a *warty excrescence* about 3 x 5 mm. Another slightly smaller, 2 x 4 mm. above it. Swelled glands around the bronchus are well circumscribed against the lung tissue. One bronchial gland discharges white milky fluid. No caseous material; appearance of not-softened glands is that of simple hypertrophy.

Right lung, 540 gms. with much larger *bronchial tumors.* In the anterior lower border of upper lobe there is a slate-colored sloughing focus. In the lower lobe there is one focus of tumors along the course of a bronchus. No pneumonic foci. The largest bronchial gland is softened in the center containing a dull red-colored somewhat gelatinous substance, the wall being white, with a few pigmented septa.

Little fluid in the pericardium. *Heart* of moderate size. Weight 234 gms. Anterior wall of right ventricle with a considerable number of white spots. Muscle of right ventricle 2 mm.; left ventricle 11 mm. Beginning of aorta smooth with very few small white spots.

Spleen of moderate size without any tumefaction, rather pale. Weight 122 gms.

Left kidney 74 gms., small, capsules strongly adherent, cortex pale, also papillæ with several retractions and a few retention cysts.

Right kidney 72 gms., also small, very flat, substance less pale, cortex broader, no cysts observed, and hardly any retraction; capsule not adherent.

Liver of normal size, slightly friable, otherwise normal.

The *external iliac lymphatic glands* and several mesenteric glands are very greatly enlarged, the one lying at Poupart's ligament the size of a closed fist, the others from that size down to the size of a large English walnut; upon section it was seen that the centre had undergone *softening.* The *tumor of the thigh* consists of a large, partly ossified, encapsulated mass in which the fragments of the femur are embedded.

The *skull* is removed after a horizontal section through the left half, and right posterior quadrant, after the scalp had been prepared off from the tumor through the whole extent. The rest of skull is chiselled off. It is thin and rather soft. Weight of the calvaria plus tumor 778 grms. Where the tumor was torn off from the skull there were very *peculiar spicules of bone extending from the skull to the superficial capsule* (Fig. 2). The skull, together with the tumor, comes off easily.

The *dura* over the left hemisphere very tense; *over the right hemisphere uneven and infiltrated* in an area extending from in front of the upper end of the helix almost to within 2 cm. of the longitudinal sulcus, and 4 cm. of the anterior end of the frontal lobe. The *right olfactory bulb is exceedingly small;* the tract, however, is not gray. The bone of orbitas cancellous. The brain with the subdural tumor mass weighs 1309 gms.

On cutting off the frontal lobe *no distinct degeneration of the centrum ovale* was noticed. The pia is slightly adherent to the nodular surface of the *tumor;* the right temporal and the foot of the central convolutions are compressed, although not softened. The depression extends upward in front of the precental sulcus, up to 1½ cm. from the falx, and to within 3 cm. from the anterior pole of the frontal lobe, turning then to the right without reaching the orbital surface. The *tumor* extends into the orbita on the external side only, there forming a mass like the one of the tumor of the convexity: well injected, uniformly deep, muscle-colored, soft, rather friable tissue, with spicules of bone, extending from the dura into the tumor, just as fishbones. On the border of the tumor, especially behind on the convexity, there is an elevated ridge of bone with spicules adapted along the periphery of the tumor. *The dural tumor has no bone spicules,* is slightly lobular and dark colored.

The *tumor of the neck proves* to be a great enlargement of the left lobe of the thyroid. The right lobe is about walnut size, slightly lobated and with easily visible pearls of colloid substance. The middle lobe is distinctly enlarged, more whitish and with more of the appearance of a kidney, *i. e.,* fibrous tortuous strands pass toward the surface into the most superficial white and dense cortex-like parts, which have only few fibrous septa. It is slightly divided into lobes—but much thicker than the cortex of the kidney and less sharply marked off. The tumor shows practically no colloid globules. The pomum adami is distinctly turned on the right. The breadth of the whole thyroid is 10.5 cm., the depth 7 cm., and the height 6 cm. It shows nowhere cystic degeneration, only in the center it is more fibrous and slightly calcareous.

Immediately above the bifurcation of the trachea there are several large bronchial glands from 3 to 6 cm. in diameter. On cross section mottled with pigment and showing a fibrous or softened center.

Anatomical Summary.—Tumor of the left lobe of the thyroid with metastatic invasion of the bronchial glands and of the lymphatics of the right lower pulmonary lobe; a tumor of the periosteum of the right frontal bone with bone spicules, and of the corresponding part of the dura without bone spicules, but with partial softening of the underlying cortex. Tumor of the right femur with infraction and invasion of the inguinal glands. Milk spots of the pericardium; old adhesions of the right lung. Aspiration pneumonia of the right upper pulmonary lobe. Distension and descensus of the stomach. Cysts of left kidney.

The *study of the sections* of the various tumors showed that they all bore a characteristic relation to the thyroid gland.

The *right lobe of the thyroid* presents throughout a somewhat atypical thyroid structure: In a stroma of very scanty fibrous tissue there are numerous vesicles with one layer of mostly flattened cells inclosing a colloid mass or a relatively empty space, roundish, or irregularly outlined; many of the groups of vesicles look as if they had undergone a process of subdivision.

The *middle lobe*, which has a fibrous, partly calcified center, and also the *left lobe*, is considerably altered. The vesicles are smaller and not plain everywhere, and usually surrounded by atypically arranged cell-heaps. The structure suggests a transformation of *adenoma* into *carcinoma*. In some parts the vesicles contain normal colloid substance; in the larger part of the tumified thyroid there are, however, the just mentioned atypical cell-aggregations.

The *tumor of the skull* presents also a varying appearance. For the largest part of it has typical vesicles with colloid contents, resembling normal thyroid structure of the text book rather than even the right lobe of the thyroid; the vesicles have far less the appearance of being in proliferation by the means of growth of septa. The intervesicular tissue is scanty in some parts; in others it has more or less numerous connective tissue nuclei, and yet in others it appears to be infiltrated with colloid substance, and to carry small groups of vesicle-cells. In relatively few points, mainly near the bone, the vesicle-cells become more densely grouped, similar to the arrangement in the middle lobe of the thyroid, but nowhere quite devoid of a tendency to form vesicles. Where this seems to be the case it is easy to see that the atypical cells are accumulations of slightly irregular connective tissue nuclei.

In the canals of the skull the vesicle-cells are practically all arranged in small vesicles; there are no distinct plugs, neither of thyroid parenchyma cells nor of fresh connective tissue; and the inside of the skull again shows densely arranged vesicles, but where the dura is reached plugs of thyroid cells, which frequently are quite devoid of any vesicular arrangement. More vesicular forms appear again on the inside of the dura. The masses on the inner side of the skull are far more vascular and in many parts distinctly hæmorrhagic; in other parts there is typical thyroid structure with colloid in the vesicles.

The reaction of the skull is quite interesting. On the outside, which has a true periosteum, the tumor led to the growth of spicules even where there was no obvious evidence for traction; in the thickness of the skull, there is an irregular hyperplasia, and also under the dura which is infiltrated and cut by many septa. There is no evidence of any encroachment beyond the periosteum and the arachnoid lining of the dura.

A section from one of the large tumors of the bronchial glands has the closest resemblance with the middle lobe of the thyroid; small vesicles, mostly without colloid, and in several places imbedded in masses of atypically arranged cells of the same type as the vesicle cells themselves.

The tumor of the femur suggests at first sight the most atypical character. It shows, however, a distinct tendency of the cells toward a vesicu-

lar grouping and there are numerous, though mostly small, vesicles, without colloid. The tumor also forces itself between muscle bundles, and between bone-fragments. In some parts it is exclusively small-vesicular.

An inguinal gland showed all the types described so far; normal thyroid with colloid areas; small vesicles without colloid passing into atypical aggregations of thyroid cells.

The *summary of this case* is as follows: In a woman with a moderate left-sided struma of the thyroid, there developed a tumor of the skull, a tumor of the femur causing infraction and an invasion of the bronchial and inguinal glands. The tumor of the thyroid also increased during the last year of her life, but it was not *infiltrating* as is characteristic for the struma maligna; it respected the covering membranes of the thyroid; the lymph glands too were not adherent; the tumor of the skull was limited between the endothelium of the dura and the periosteum of the skull, but it pervaded the dura and bone and produced uneven hyperostoses on the inside and long fish-bone like processes from the outside of the skull into the elevated periosteum. The tumor of the femur was distinctly infiltrating as it penetrated through the bone between the muscle-bundles.

In its nature, the thyroid gland itself suggested a condition of adenomatosis in the apparently normal part, and adenocarcinosis in the tumor of the middle and left lobe with its central fibrosis and partial calcification. The tumor of the skull showed to a great extent normal thyroid structure and only within the dura atypical arrangement of the cell elements. The tumor of the femur and the metastasis in the bronchial gland have the type of adenocarcinoma beside normal thyroid structure with typical vesicles and colloid. In short, certain parts of the metastatic tumors, especially that of the skull, showed more typical thyroid structure than even the normal right lobe of the thyroid.

This case may be considered in many respects as an intermediate step between the ones of Cohnhein and Wolf and Eberth and those which Recklinghausen must have had in view in his criticism of Cohnhein's article. Compare also von Eiselsberg, Langenbeck's Arch. Vols. 46 and 48.

It shows clearly the peculiar tendency of this organ to take up its normal appearance in the metastasis according to the opportunities of the soil in a way that Baumgarten has observed for a cystoid of the ovary, and as is sometimes seen in portions of

metastatic tumors from carcinoma of the intestinal canal. It also shows the different relation of the periosteum of the skull and the dura; the former alone grows spicules within the tumor.

An examination for iodine in the thyroid and the metastatic tumors by Dr. Levene gave negative results, possibly because the tissues had been in various solutions for nearly 7 years. It is however also of interest that the patient did not show more marked symptoms of hyperthyroidism.

Postscript February, 1912.—A number of similar cases have been observed since the presentation of this paper to the American Association of Bacteriologists and Pathologists in 1903. The most interesting case in American neurological literature is the one of Dercum, on Thyroid Metastasis to the Spine; Journal of Nervous and Mental Disease. Vol. 33, pp. 153-168 (with additional literature).

REPORT OF A CASE OF PELLAGRA IN MAINE WITH REMARKS UPON RECENT WORK ON THE ETIOLOGY OF THE DISEASE.*

By HENRY W. MILLER,

Superintendent, Maine Insane Hospital, Augusta, Maine; Junior Assistant Physician State Hospital, Worcester, 1897-1898.

This case is reported as it is the first case of pellagra originating in so far as we have knowledge in the state of Maine. In fact, not more than two cases have been reported from the New England States, excluding a series of unquestionable cases which have recently been observed at the Rhode Island State Hospital. The interest in this case is further enhanced, owing to the fact that it casts some doubt upon the maize theory of origin.

The essential points in the history are as follows:

Patient a woman, single, 21 years old. Father died at 58 from cancer of the face. Mother living at 56. An uncle and cousin on paternal side were insane. Paternal grandfather died from cancer, age 80. Patient is second youngest child in family of eight children. One brother died at 21 from appendicitis. The other brothers and sisters are in good mental health.

Patient was born on Chebeague Island, Maine (in a rural community). Has lived there all her life, never leaving except for a brief visit to Portland. The patient's father was a fisherman. The family were in comfortable circumstances, living in comparatively good hygienic surroundings. There are said to be running streams in the vicinity. She had measles and whooping cough in early life. Made good progress in her school. Was mentally normal, of a cheerful disposition, but was considered always rather delicate physically.

During the past few years she has worked through the summer as a waitress; in the winters, at home. Menstrual life normal. Her diet was the same as other members of the family. She had meat once a week; fish two or three times a week. The bread was made of ordinary wheat flour. Indian meal was not used as a cereal, was not used in household except in brown bread, which was made on Saturdays. Corn syrup used at times, but for it the patient had no special fondness. In no other way did the products of corn enter into the diet.

---

*This paper forms contribution number seven of the Worcester State Hospital (Mass.), Series of 1912, offered in compliment to Dr. Hosea Mason Quinby on the event of his retirement from the Superintendency after 20 years of service.

Present Attack.—In September, 1907, patient began to show an inclination to lie in bed and go without her food. She became indifferent, felt weak, run down, and complained of headache. During the winter of 1907-08 she remained by herself a great deal; did not care to get up and dress. Had periods from a few hours to a day when she would not talk. During the summer of 1909 she complained of itching in the extremities, and had what was considered a severe sunburn on the extensor surfaces of her arms. In the summer of 1909 she became better mentally; was able to do some work away from home. In the fall she became more listless and from September, 1909 to July, 1910, she remained in bed. During this time she complained of a burning sensation in the extremities. Four days later she went blue berrying; the sun was hot, she had her sleeves rolled up; that evening her forearms were sore. She thought they were sunburned. The following day white blisters appeared on the back of forearms and between the fingers. At this time she had a very sore mouth, called by her yellow canker (stomatitis). This came on about two weeks after the rash first appeared. She also at this time had a diarrhœa. Since July she complained more of the pain and itching of her legs. In October she went to the ocean, standing in the water in bare feet to obtain relief from the sensation of heat. It was about this time that she consulted Dr. Pudor in Portland, who recognized the condition as pellagra. She was committed to the Maine Insane Hospital, November 8, 1910, on account of marked mental symptoms. She had been sleeping poorly, had hallucinations of hearing, and had begun to go out of doors without her clothing, claiming she had been directed by God to do so.

Physical Examination.—On admission was emaciated; height 5 feet 5 inches; weight 88 pounds. On back of hands and extensor surfaces of forearms was found a peculiar symmetrical discoloration. This area extended on extensor surface from the knuckles to about two inches below the bend of the elbow on each arm. It was of a light brownish tinge, sharply demarcated from the healthy skin. There were no abraded surfaces on the arms. On the dorsal surface of both feet were found several areas, irregularly circular in outline, varying in size from a ten cent piece to a silver dollar, where the superficial skin was eroded, leaving a raw bleeding surface in places where crusts had formed. The skin between the patches was red and edematous. She complained of a burning, scalding, itching pain in her feet. On the right side of the neck about the collar line and below was a patch roughly triangular in shape, and about the size of the palm of the hand, which was discolored similar to the arms. The skin pigment was not increased in the normally pigmented locations except about the anus where it was somewhat darker than usual. Mucous membrane of the mouth, tongue, fauces, and tonsils was abnormally red; papillæ raised. No ulcers in the mouth. Bowels constipated. She had a subjective feeling of dizziness; complained of frontal headache, backache in lumbar region, shooting pains all over her. There was some hyperæsthesia on either side of the vertebral processes in the dorsal region. This area was poorly defined, irregular and inconstant. There was general

muscular weakness. The blood examination showed 80 per cent hemoglobin; 3,920,000 red blood corpuscles, 6500 whites. The differential count was as follows: Polynuclears, 71 per cent; small lymphocytes, 17 per cent; large lymphocytes 11 per cent; eosinophiles, 1 per cent; few poikilocytes and a few normoblasts.

Cause of the Disease.—The mental condition on admission was a rather interesting one which presented many features similar to the mental disturbances found in infection-exhaustion psychoses. She was indifferently oriented. Her recent memory was defective and she had a few pseudo-reminiscences. She had rather distinct hallucinations of hearing to which she reacted; the voices had an indistinct sound quality and were interpreted by her as coming from the Savior. At times she had vague visual hallucinations, claiming she saw the Savior dressed in white with a purple shawl and she also saw indistinct figures in her room. During this period her temperature was irregularly elevated, presumably due to the suppurative process on her feet. Her mental grasp upon the occurrences in the surroundings was fair. Her school knowledge was defective. Her attention blunted. She showed no stereotypy or mannerisms. Occasionally she felt impelled to carry out the commands of the voices, but she did not have a distinct feeling of influence. She at times was bright and alert and again for days seemed as if in a dream.

The most troublesome feature during the early part of her stay in the hospital was the ulceration of her feet. This condition was aggravated by her persistent tendency to scratch. After various forms of medication she was in December, 1910, placed in hexamethylenamine, 5 grains three times a day. The improvement in the condition of the skin and her general physical condition was quite marked for a time. The pigmentation on the arms and neck faded but still remains visible (fall of 1911), the ulcerations on the feet healed and a characteristic discoloration remains.

In the spring of 1911 there was marked erythema about the knuckles, but the tissue did not break down. During the summer of 1911 she was never exposed to strong sunlight and all corn products were removed from her diet. At no time since her admission has there been any diarrhœa; on the contrary, there is a tendency to constipation. The condition of her tongue and the mucous membrane of the mouth have improved.

Mentally she has deteriorated and presents a profound apathetic dementia. I am not prepared to offer any definite explanation as to the relationship of the mental symptoms to the disease pellagra in this instance. There are many symptoms on the mental side indicative of a dementia præcox process, and in view of the improvement in the physical symptoms with a gradually developing apathetic deterioration, I am inclined to the belief that the basic condition might be a dementia præcox process. Many of the mental symptoms during the acute stage of the disease were undoubtedly due to the toxæmia associated with pellagra.

Attention is at present largely directed to the etiology of the disease, which is still an open question. For a century and a

half it had been taught by many men of wide experience that the disease bore some relation to spoiled corn, and this belief dominated the etiological field to such an extent that investigation along other suggestive lines has only recently been undertaken.

C. H. Lavinder of the P. H. and M. H. S. in October, 1909, summarized the various theories as to causation as follows: "Broadly speaking, we may divide the theories as to the etiology of pellagra into two large groups, *viz.*, those of the Zeists, who think there is some definite etiologic relation between Indian corn and pellagra, and those of the Antizeists, who oppose this view.

"In the latter group there is really but one body of students, and that is composed largely of the French school, who deny that pellagra is a morbid entity and regard it only as a symptom complex occurring in alcoholics, insane persons, and in persons in other depressed states.

"The Zeists include nearly all students of the disease, but their views are by no means harmonious. Putting it in a general way, their various ideas as to the etiology may be placed in three general divisions:

"(1) That it is an intoxication (toxico-chemical); (2) that it is an autointoxication (toxico-infective); (3) that it is a specific infection either by bacteria, molds or protozoa. All these variations, however, it must be noted, take into more or less essential consideration the relation of the disease to corn; the intoxication, the autointoxication, or the infection being in some more or less definite way regarded as usually connected with or divided from that grain.

"It must be added, however, that while in most of these theories corn is regarded as an essential factor in the etiology of the disease, in others this cereal is not regarded as an absolute necessity, although much importance may be attributed to it. (Ceni.)"

Hirschfelder of Baltimore made a series of skin tests with corn extracts in pellagra to ascertain whether pellagra was due to or accompanied by a condition of hypersensitiveness of the individual to products derived from good and from spoiled corn. These tests were made with substantially the same technic as that employed by V. Pirquet in tuberculosis, except that corn extracts

were substituted for tuberculin in making the test. The extracts were made from samples of good corn, spoiled corn and spoiled corn containing aspergillus fumigatus. The reactions were all negative. There was a simple traumatic reaction, of the same type as that found with the controls. As a result of his experiments, Hirschfelder thinks it highly improbable that such a condition of hypersensitiveness exists.

Raubitschek at the institute for pathology and bacteriology at Czernowitz made a series of experiments in applying the biologic, anaphylactic, serologic, deviation of complement and other tests. While his results were constantly negative he was led into further research which seemed to him to show that pellagra and beriberi are the results of the action of some toxin in corn and rice which does not display any toxic action unless it is sensitized by the chemical rays of the sunlight. He was led to this conception of the origin of pellagra as the action of an alimentary poison plus sunlight, by the experiences with white animals fed on buckwheat. Kept in the dark they remain healthy, while when they were exposed to the sunlight the hair dropped out and the animals became emaciated and soon died with symptoms of paralysis. This syndrome was not observed with the dark-colored animals or with those kept out of the sunshine. He explains pellagra consequently, as due to a toxin which developed in the parts of the skin exposed to the sunlight, from the action of the chemical rays on the lipoid, alchol-soluble element in corn. The toxin developing in the skin causes the superficial lesions and has also injurious systemic action.

J. D. Long of the P. H. and M. H. Service who has done work on pellagra in South Carolina was struck by the resemblance of the disease to amebiasis and he formulated an ingenious working hypothesis, which has not, however, withstood investigation. He assumed that pellagra is a disease resulting from an injury to the intestinal mucous membrane, produced by the amœba. As a result of the ulceration, there is an inflammatory process extending throughout the alimentary tract which interferes with the absorptive power of the intestine and the manufacture of the digestive ferments normally produced in the intestines. Later, owing to a long continued inflammation of the intestine, the pancreas and the liver undergo inflammatory change which interferes with

the quality and quantity of the digestive juices that they produce, with the result that the food ingested is improperly digested. The presence in the intestine of undigested food favors fermentation and putrefaction of its elements with the production of certain toxins, ptomains and intermediate products of digestion which are harmful to the body. The insanity of pellagra was assumed to be due to the severe and long continued toxæmia. The lesions on the hands, neck, feet, face and genitalia were assumed to be due to two factors: First, the mechanical pressure on the nerves at their exit from the spinal canal, and second, the degeneration of the nerves themselves as a result of the toxæmia. Long in his investigations found many insane pellagrans with amebiasis, but he also found many sane cases equally infected with amœbas but without symptoms of pellagra.

The association of amœbæ and hookworms with pellagra is common, but the attempt to associate them as cause and effect is as yet premature.

The theory which at present is attracting most attention is that of Dr. Louis W. Sambon, lecturer on tropical medicine at the Liverpool School of Tropical Medicine. Sambon, in 1905, stated that he believed the disease to be caused by a protozoal parasite, probably transmitted by some blood sucking insect. In 1910 he was sent by the British Commission for the study of pellagra to investigate the disease in Italy and he has since announced his conviction that the disease is transmitted to each individual by an infected sandfly, the Simulium reptans, though he has failed to find the actual organism. As proof that pellagra is conveyed by the sandfly, he maintains that the Simulium is found in the swift running streams of all pellagra districts; it has the peculiar seasonal distribution of pellagra. It is found only in rural districts. It is found where pellagra is found, and is the only blood-sucking insect which the British field commission has found in its visits to numerous pellagrous districts in Italy. It has a world-wide distribution and explains the wide distribution of pellagra: it causes epizootics in animals in America and Europe.

Against the maize theory he offers the following five propositions:

1. Pellagra is found in places where maize is neither cultivated or eaten.

2. It is absent from many places where maize is the staple food of the population.

3. It has in many places either decreased or become more prevalent without any change in the food of the people.

4. Its constant and peculiar distribution does not agree with the very irregular and ever changing distribution of spoiled maize.

5. Since the maize theory was first suggested, no one has been able to prove it.

Dr. Babcock of Columbia, S. C., who has drawn attention to the disease in this country more than any other man, tersely sums up the situation as follows: "I think the deeper one gets into the pellagra problem, the less inclined he is to dogmatize about it.

ANALYSIS OF PSYCHOSEXUAL ANÆSTHESIA IN A CASE OF PSYCHOPATHIC PERSONALITY.*

By MORRIS J. KARPAS, M. D.,

Assistant Resident Alienist, Bellevue Hospital, New York, N. Y., formerly Second Assistant Physician, Manhattan State Hospital, New York, N. Y.

(*From the Clinical Department of the Manhattan State Hospital, New York City.*)

The invaluable contributions of Freud have aided us materially in our studies of normal and abnormal mental phenomena. Formerly sexual matters were treated rather crudely, and the psychological aspects of sexuality were totally neglected. We are indebted to Freud for the profound insight which we have gained into psychosexuality. Without any exaggeration one may assert that had it not been for Freud we would not have been able to understand the mechanisms of certain psychotic manifestations in some neuroses and functional psychoses; and, indeed, to him we owe our progress in psychopathology. The case which forms the subject matter of this communication was analyzed according to Freud's methods.

The patient, a young Scandinavian woman,† came to the Manhattan State Hospital, because at home she was very frequently excited and resentful towards her mother, whom she held responsible for her trouble. When admitted the patient appeared quiet, composed and mildly depressed, spoke coherently, and declared that her life had no significance because she had lost her sexual sensations. Formerly objects, scenery, music, etc., would excite her sexually, but at present there was not strong enough stimulus to awaken her.

The history of the case is as follows:

Family History.—Paternal grandfather was strong sexually. The father was a sexual pervert, otherwise there is no vesanic or neurotic taint in the family.

Personal History.—The patient was born in Scandinavia about 29 years ago. As far as known her early life was uneventful. She attended school

---

* Read at the sixty-eighth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., May 28-31, 1912.

† In view of the marked sexual history the identity of the patient was somewhat distorted.

and was a fairly intelligent student. At 15 she began to work, at first in a sweatshop, and later obtained a position as bookkeeper.

She was considered bright and intelligent, fairly active in social circles, and there were no traits of intellectual inferiority.

In 1905 she was operated upon for appendicitis, but without any complications, except for the pain she experienced in the right side. Since then she had suffered from aching pains all over the abdomen. She consulted physicians, and was finally subjected to an operation for a floating kidney in March, 1910.

Since the last operation the patient grew more nervous, cried quite often, blamed her mother for the operation, and on account of frequent spells of excitement it was necessary to commit her to a state hospital.

Upon admission, physical examination showed no evidences of a neurological disorder, and there were no hysterical stigmata.

She remained in the hospital more than 18 months, and her mental condition, may be described as follows:

The patient was quiet, worked on the ward, associated with her fellow patients, took part in all amusements, and was always ever ready to talk about herself. She was very well oriented; her memory was good; and her general grasp was intact. She did not react to hallucinations, and delusional trends could not be ascertained. She spoke freely of her ailment; and she stated again and again that her life was played out because she was devoid of all sexual feelings. "Doctor, I am gone," she pleaded, "life is meaningless, nothing affects me, I am dead to the world, my organs are dead, I have no pain, no feeling, the world has lost all its charms for me, I can never marry, I can never have children, my sexual feelings are dead and they will never be revived." She derived considerable pleasure from talking about her past experiences. However, she was somewhat sensitive; she always tried to emphasize that her reputation was beyond reproach. Not infrequently she cried while discussing her troubles, and, indeed, on several occasions she was disturbed and mildly excited, which she explained on the ground that the loss of her sexual sensations caused her considerable grief and sorrow. The excitement was only transitory, and could always easily be controlled without medication or restraint.

She described herself as having been fairly active, intelligent and taking interest in worldly affairs. She had occupied a fairly good standing in her social circles, and had had many friends and admirers. She was fond of the theater, concert and opera. She read books, and had a fairly good knowledge of the English, French, and Russian literature; the trend of her reading was rather sensational and sentimental.

In regard to the development of her sickness, she volunteered the following account:

Ever since her early childhood she had experienced certain thrills, which she termed electrical shocks, and which were sexual in character and quite often accompanied by orgasms. At the age of 21, about two years after her father's separation from her mother, she began to have pains in the left arm, and later in the left side and thigh, which were also sexual in nature. In 1905

she was operated upon for appendicitis, but, nevertheless, the pains persisted. In 1906 she gave up her work and went to Scandinavia, where she remained six months. While there she did not improve. She returned home, and still experienced her former pains. In March, 1910, she was subjected to an operation for a floating kidney; from that time the pains gradually diminished in intensity, and in June, 1910, they suddenly ceased, and with them she lost completely her sexual sensations. It is important to note that a few days prior to this episode she quarrelled with her mother, and reproached her for the separation from her husband. She stated that on the night when she lost her sexual sensations she became very much excited, destroyed her bedding, shouted and screamed, and said *that had her father been with her this great misfortune would not have befallen her.* She cried bitterly and condemned again and again her mother's attitude towards her father. From that time on she was subject to similar attacks of mental upsets.

In order to be able to understand the mechanism of this neurosis, let us take a glance at her psychosexual life.

The Patient's Psychosexual Life.—The patient was always very passionate; mere contact with men and women, scenery, objects, words, etc., would excite her sexually to the extent of causing orgasms. Certain words, objects, expressions, signified sexual symbols. For instance, whip, pencil, pen, chimney and snake, meant penis; curtains, pocket books, and lips, vagina; red flag, blood, river and water, menses; pushing, night, sliding, hooks and eyes, satisfy and swim, meant intercourse; and cut, torn, implied first attempt at intercourse. There were certain expressions which would produce a sexual effect upon her; for example, "It is up to you"; "Now so much for that"; "Let it go at that"; "A fine exhibition." This is only a meager illustration of the numerous sexual symbols which unconsciously dominated her life.

From her childhood she had had many wishes; for instance, a great desire to be a mother, because she wished to be suckled. She was fond of fellatio, but without swallowing the semen, and would at the same time allow the man to perform cunnilingus upon her. She liked to fondle a penis, and to squeeze a woman's breast. She would have gratified these wishes had it not been for the fact that she wished to maintain the integrity of her reputation; conventionality helped her to repress her innermost wishes. She had always been considered highly moral in her social circles.

Sexual Experiences.—The patient's sexual experiences had begun as far back as the age of four, when she picked up her dress while her grandfather was fast asleep and snoring, and exclaimed, "Here is a snuff box; snuff it." At the age of five a boy made quite an impression upon her, and she was particularly fond of making coquettish movements in his presence. At the same age she slept with her aunt, who would masturbate herself with the patient's hand. She (the patient) enjoyed it immensely. This practice continued for many years. At the age of nine sexual sensations became intensified when she was told by a girl two years her senior of

the sexual experiences she had had with men. This same girl would lie upon her and rub against her genitalia. In early childhood she used to play with little girls, and they would suck each other's clitoris.

Masturbation.—Since the age of nine she used to put her hand between her legs, and from this practice she would receive sexual gratification. At the age of 25 she began to masturbate by rubbing her clitoris; formerly, she was afraid of doing this lest she rupture her hymen. She would masturbate regularly once a night. At balls she would resort to onanism between the dances. In 1908, while working for a married man, she used to masturbate five times a day. At the age of 13 she observed sexual intercourse between her father and mother, and at that time she wished she was in her mother's position.

Relations With Women.—Fair complexioned women (her mother was fair complexioned) with developed bosoms, soft expression, and with musical and artistic ability, would usually appeal to her. Especially was she attracted by a woman who had a narrow mouth (narrow mouth she associated with vagina), which would affect her sexually. At 21 she was in love with a certain girl, Jennie. "I used to hug and kiss her. I would say, 'Oh, dear Jennie, let me lie next to you.' I had a great love for her. I used to ask mother to make all kinds of dishes for her. I wished to be more intimate with her, but I was afraid. I wished to suck her breast. I always wished to act in the capacity of a man. I always behaved like a gentleman in the presence of women. I would even walk on the outside, and girls used to make fun of me. When I would read letters from girls I would get sexually excited, so excited that I would have to drink water in order to soothe my passions." Her girl friends were always afraid of her, and quite often they would assert that an examination of her genitalia would be necessary in order to ascertain the identity of her sex. She had actual homosexual practices between the ages of 10 and 12 with a little girl, but not in adult life. When 21 years of age, while sleeping with her mother, she put her hands between her mother's legs and felt her vagina. Her mother turned and she (the patient) immediately took her hands away. Since then she has made no other attempt. It is worthy of note that she was very fond of her mother's body, and would take a great delight in kissing and hugging her neck and back. Pregnant women would exert a great impression upon her, and she liked to caress them.

Father.—In order to understand the type of men that appealed to the patient it is necessary to discuss her relations with her father.

"My father is tall and broad; he is fair complexioned; has brown hair, a little bit gray; the color of his eyes is blue, and they are dreamy; he has a prominent nose, and a medium mouth. He is rather passionate looking; he is neat and intelligent in appearance. He is well informed and is radical in his opinions; he has speaking ability; is generous, but somewhat selfish."

Until the age of five she had slept with her father. Even at that age she was anxious to know how her father's penis looked. When she was seven years

of age she rubbed his penis in her hands, which she soon found wet. She was frightened and turned her head away. She thought that she had done something very wrong; and she imagined that he was sick and bleeding. At that time she got a good picture of the male organ. Nevertheless, her curiosity was not gratified.

She was her father's first child, and he used to caress her. Indeed she was petted since the age of three or four; and she, in return, showed great attachment for her parent. She had two sentiments for her father, love and hate. She hated him for one thing only, because he associated with other women besides her mother; but she loved him because he fulfilled her ideals. At the age of 17 she thought that he could possess her and wished to marry him. She vividly recalls telling him, "Papa," (embracing him) "would we not make a nice couple?" He reproached her for this remark. She would always hug and kiss him, and clasp him to her breast; and he, as a rule, would reciprocate. The father immigrated to the United States when she was five years of age. When he left her she cried bitterly. Every letter that her mother would receive she would cover with tears. Ever since childhood she thought that should she love her husband as well as her father she would consider herself happy. She respected him like a father, but loved him like a husband. Whenever her father would come in contact with her mother the patient would be envious of the latter.

In her own words, "Sometimes, when the children were off my father's lap, I took their place, and father would often say, 'Such a big girl, shame! the children tire me; no less you; get off.' At which remark I wept, kissed and hugged him, saying, 'Papa, I am a child, too, a big child, but a child; please let me sit, if only a little while.'"

After her mother went to Scandinavia on a visit, she tried to represent her mother, and as she puts it, "I took possession of the affections of my mother and the two younger pets. Noticing that I had a sexual effect on my father he started to wean me off, saying, 'Sophie, you are no more a little girl; it is not becoming; you must learn to become distant; especially, in the future, be distant with young men. I am papa, but strangers expose you for the least intimacy,' etc. I replied, 'Papa, don't insult me; is it wrong to love your own dear papa?' Then approaching and placing my arm around his neck, I would sing:

WHY ARE YOU SAD, PAPA, MY DARLING?

Why are you sad, papa, my darling?
Why are those tears falling to-day?
Why do you look at me so strangely?
Have I done wrong? Tell me I pray!
"No, no, my child, you are an angel,—
There's not a heart purer than thine;
But I've a fear some day you'll leave me
Just as your mother did, there'll come a time."

"There'll come a time some day
(I'll be far)
When I'll have passed away,—
There'll be no father to guide you
From day to day;
Think well of all I've said,
Honor the man you wed,
Only remember my story,—
There'll come a time."

From childhood her liking for her mother was double, as a child and admirer, and as a companion. Her mother would usually consult her when she was in difficulties. In later life (during her father's separation—he left the family when she was nineteen), when she was of financial assistance to her mother, she would take the place of a husband and father. She would speak of her sisters and brothers as children. Once her mother reproached her for calling them children. When she was sick her mother would carry her, and she would say, "Mother, you carry a sick husband."

"I have always," the patient declared, "identified myself with my father and tried to imitate him in many ways." She maintained sexual fancies about her father, and her innermost wish, since early age, was to consort with him. In 1906, at the age of 23, while in Scandinavia, he rubbed his penis against her vagina, and also performed cunnilingus upon her. She had many such experiences with him.

Relations With Men.—This gives us an idea of her attachment to her father, and we are now in a position to understand the type of man that would attract her.

When she was asked the type of man she loved, she said, "Oh, my papa, he was the man I loved." It is to be emphasized that an effeminate man was her ideal; many of her fleeting lovers were decidedly womanly in their behavior and appearance. Men with fluency of speech (this was a characteristic of her father); rather coquettish; with a great deal of hair (her father had a great deal of hair); narrow mouthed (narrow mouth reminded her of a vagina); and gentle and polite behavior; would, as a rule, make a great impression upon her. Although she had many admirers, and even kept company with some, yet she had not been in love with any of them. Separation from her fiancé would bring about no effective disappointment. At 17 she made the acquaintance of a certain young student. She would call on him. He would hug and kiss her and bite her lip. She stated that he was one of the few men whom she fancied. She could have done anything he would have asked, even consorted with him. She kept up the relation with him for many years. He was ugly, but clean; he had a narrow mouth; and when she spoke of him, she stated, "Oh, his mouth, how clean he was; I could have done anything for him."

At the age of 23 she kept company with a young man with whom she mutally masturbated for more than eight months. Once he rubbed his penis between the labia majora; but she did not permit coitus, because she

wished to uphold her reputation. She began to dislike him because she learned that he was not strong sexually. Soon they separated, but without bad effects.

During the months of November and December, 1908 (at the age of 25) she worked for a married man, with whom she became infatuated. He was a womanly man; he used perfume and acted towards her like a well-mannered lady. She would tremble in his presence because in many ways he reminded her of her father, especially in his manner. Whenever she would look at him she would get excited and a thick mucous would escape from her mouth; and this secretion she would mistake for uterine discharge. She would kiss and hug his clothes (fetichism), following which she would masturbate. His influence over her was so great that he could have taken advantage of her if he had so desired.

Dreams and Association.—The patient has had many dreams in which homo-sexual and bi-sexual wishes were quite apparent. Brief reference to some of her dreams may be given:

I. "*I dreamed that a lady had several rings on her fingers, with locks attached, one of which she gave me.*"

The lady in the dream was one of her old acquaintances. She had a great ability of speaking fluently (the patient always admired people who could talk fluently—her father was always a fluent talker). Physically, however, she never cared for her. When she thought of her she thought of her parents, with whom she was acquainted while her (the patient's) mother was away in Europe. This woman was her confidential friend; she would sleep with her and would rub against the patient. The rings she wore in the dream were with locks and keys. The latter were attached to a chain. In the dream she gave the rings, saying, "Here, Sophie, have one." Not infrequently this lady would present her with things and would use the same expression, saying, "Here, Sophie, have one." She gave the following associations for ring: "It adds beauty; binds people; and vagina." Lock she associated with intercourse. Keys she associated with male organs, tongue and mouth. Three meant to her father, mother and child, meaning a newly married couple (at another time she associated three with the male genitalia—the two testicles and penis).

This dream expressed a homosexual fancy.

II. "*I dreamt that I was in Scandinavia and walked with a young man through the streets of a village. The streets were unpaved. It appeared as though there had been a shower during the night, as it was awfully muddy and there were puddles. Peasants were clearing the paths. As we were waiting for the paths to be cleared, he raised a little round, white, wooden basket, about four inches in diameter, and said, 'Here, sip.' The contents were minute seeds and white syrup. When these seeds are pressed they produce milky syrup.*"

The young man was tall and dark; he reminded her of a candidate for mayor; he had speaking ability, and was a public speaker. The village was the one where she visited her father, with whom she had sexual practices. The basket she associated with vagina; the seeds with chicken

ovaries; and the fluid from these seeds meant to her milk from the breast and semen. "Here, sip," meant to her intercourse.

This dream expresses the wish for cunnilingus with her father, which she had cherished all her life. In her early childhood she used to play with small children, and they would suck each other's clitoris.

It is important to note that in both these dreams the mouth has played an important part. The man or woman who figured in her dreams was always one who could talk fluently. Her father was a fluent speaker, and one must bear in mind that the mouth was one of her active erogenic zones—"*von unten nach oben.*"

The association test according to Jung was employed, and it would be interesting to refer to a few of her associations, which would also show the trend of her conscious and unconscious thought processes.

Stimulus-word.	Answer.	Time. *Seconds.*	Reproduction.
Head	Brain	2	Hair
Long	Walk	5	Distance
To carry	Basket	4.1	Flowers
To dance	Girls	2	Ball
Stick	Child	2	Dog
Hunger	Poverty	3.2	Food
False	Teeth	2	Teeth
Box	Sexual organs	3	Female organs

Head.—Associated with male genitalia and female genitalia, especially because the penis has a head.

Long.—She was always curious to know the actual length of a penis. At one time she thought that the length of the penis never changes, but when she found that during erection its size increases and depends a great deal upon the strength of the individual, this matter began to trouble her.

To Carry.—She associated carrying with pregnancy; had a great desire to be pregnant; and was, as a rule, fond of fondling pregnant women. She felt that pregnancy was the most pleasant thing in a woman's life, and lamented that she could never conceive, because she was devoid of sexual sensations.

To Dance.—Dancing always meant to her sexual sensations. "When I used to dance I would often get out of step for the purpose of having the partner bump against my knees; this would produce a shock and I would enjoy it. When I would dance with girls I would squeeze them to my bosom.

Stick.—This she associated with "hoople and stick;" as a child she used to be fond of playing "hoople and stick"; hoople and stick she associated with intercourse—hoople, vagina, and stick, penis.

Hunger.—Craving for sexual hunger; hunger meant sexual satisfaction.

False.—Teeth and false she associated with vagina; mouth always meant vagina; tongue implied clitoris; both lips signified vagina; white teeth and narrow mouth would exert a great sexual influence upon her.

Epicrise.—We have attempted to lay bare the patient's psychosexual life, outline many of her experiences, and show the trend of her wishes. It appears that her psychosexuality is *polymorphous perverse,* which is characteristic of the infantile, but with strong homosexual proclivity. It is worthy of emphasis that her male sexual object usually presents many of the womanly characteristics, plus some of her father's personality. The masochistic and sadistic components are fairly well dominant; the former is manifest in her association with the opposite sex, and the latter, with the same sex. The erogenic zone is not restricted to the sexual organs, but is extended to the mouth as well, "von unten nach oben," and the latter is rather very active, as the dreams and her phantasies have showed. There is not only a strongly libidinous attachment to the father, but also marked identification with him. The latter is the most potent factor in neuroses and functional psychoses. Herein lies the danger of unhealthy sublimation and abnormal compensation. There is another striking feature in the case: the latency period of her psychosexual life apparently had never existed.

On the ground of the anomalous psychosexual life which dominated the patient's mental life and caused deviation from the norm, the personality is regarded as psychopathic. While the patient may show few stigmata of deterioration, in the way of lack of proper voluntary control, and deficiency of ethical integrity, yet there are no symptoms to justify one in regarding it as a schizophrenic reaction.

Before undertaking to interpret the psychoneurotic symptoms in this case it is important to recall the following facts: Beyond a shadow of doubt the *father-complex* was one of the most potent dynamic forces in her mental life. The abnormal tendencies of the patient's psychosexuality were determined by the direct and indirect influences of the libidinous attachment to, and the identification with, her father. In this connection it would be well to refer to Freud, who states:

"Although psychoanalysis has not yet given us a full explanation for the origin of inversion, it has revealed the psychic mechanism of its genesis and has essentially enriched the problem in question. In all the cases examined we have ascertained that the later inverts go through in their childhood a phase of very intense

but short-lived fixation on the woman (usually on the mother) and after overcoming it they identify themselves with the woman and take themselves as the sexual object; that is, following narcissism, they look for young men resembling themselves in person, who shall love them as their mother has loved them. We have, moreover, frequently found that alleged inverts are by no means indifferent to the charms of women, but the excitation evoked by the woman is always transferred to a male object. Thus they repeat through life the mechanism which gave origin to their inversion. Their obsessive striving for the man proves to be determined by their restless flight from the woman. It must be remembered, however, that until now only one type of inversion has been subjected to psychoanalysis, viz., that of persons with a general stunted sexual activity, the remnant of which manifested itself as inversion. The problem of inversion is very complex and embraces many diverse types of sexual activity and development. Notionally, it should be strictly distinguished whether the inversion reverses the sex character of the object or of the subject." (Dr. A. A. Brill's translation.)

The mechanism of the patient's homosexuality is the same as in Freud's cases. At first she fixed her libido on her father; then identified herself with men; and later took herself as a sexual object. A striking fact stands out prominently in the analysis; that is, the patient's inability to fall in love. Although some of her objects had partially fulfilled her ideals, yet none of them could have substituted her father. In other words, she was consciously and unconsciously in love with her father. It must be emphasized that she was decidedly masochistic since her early childhood; as far as she can remember herself she experienced thrills which produced a pleasurable affect. As a rule, in the presence of men she was subdued and enjoyed pain, provided it was inflicted by the opposite sex. On the other hand, she manifested sadistic tendencies with her own sex. The extreme pains which she began to experience shortly after her father's separation from the family were most probably conversion of the libido into the somatic or the escape of the libidinous energy through another channel which was as well developed as the others. After her father had left her she tried to adjust her libido, but failed. It should be borne in mind that before the development of her

disorder she quarrelled with her mother and upbraided her for her attitude towards her husband. Because she failed to realize her innermost wish—to regain her father—she was forced to seek refuge in the neurosis. It is evident that the psychosexual anæsthesia is nothing but a *defense mechanism*. She is sexually anæsthetic because her father is denied her. My colleague, Dr. A. A. Brill, tells me that in his cases of psychosexual impotence in men repression of the incest fancy was the underlying psychological mechanism; when the patient comes in contact with the opposite sex the mother image impedes further progress; hence, impotence results.

While the analysis in this case is not complete, yet considerable good has been done to the patient; the periods of excitement have been less frequent, and, indeed, of late she has been fairly calm, and has taken a more cheerful view of life. The question of marriage comes up for consideration in this case, for, after all, one cannot test true frigidity without a sexual object.

The author wishes to express his gratitude to Dr. Wm. Mabon, Superintendent of the Manhattan State Hospital, New York City, for the permission he has given to publish this case. His thanks are also due to Dr. A. A. Brill for some valuable suggestions which he offered in interpreting some of the analytical material.

REFERENCES.

Freud. Traumdeutung.
Freud. Die Sexualtheorie.
Brill's Translation of Freud's Sexual Theory.
Freud. Neuroselehre. 1909.

THE JURY LAW FOR COMMITMENT OF THE INSANE IN ILLINOIS (1867-1893), AND MRS. E. P. W. PACKARD, ITS AUTHOR, ALSO LATER DEVELOPMENTS IN LUNACY LEGISLATION IN ILLINOIS.*

By RICHARD DEWEY, Wauwatosa, Wis.

No one can contemplate without wonder the historical fact that in the state of Illinois for a period of over 26 years, the only process whereby a citizen of the state could be committed to the institutions for the insane was by appearing in court and being passed upon by a jury. This rule did not apply to insane criminals; but, with this exception, all sufferers from insanity, whatever the nature of their psychosis; whether they were in a toxic delirium; in the grandiose stage of paresis, or in the stupor of melancholia, were brought to the court room and exhibited to judge and jury and, incidentally, to as many spectators as happened to be in the hall of justice. Women suffering from puerperal insanity or in the throes of hysteria, victims of senile dementia, brain tumor, drug or alcoholic addiction—all shared the same fate. They must be publicly declared "insane" by the verdict of a jury, before they could be received for care or treatment in the state hospital. It is difficult to understand how this "first aid" to injured minds came to be devised until we consider two facts. First, the attitude of the public mind, prevailing half a century ago, towards insanity and towards the institutions for the insane—an attitude of mixed suspicion and superstition, growing largely from ignorance; and, second, a vicious and unconstitutional, yet technically legal form of commitment provided for by the statute of 1851. This vicious commitment clause in the Illinois statute ran as follows:

> Section 10. Married women and invalids who, in the judgment of the medical superintendent, are evidently insane or distracted may be received and detained in the hospital on the request of the husband of the woman (or parent or guardian of the infant) *without the evidences of insanity or distraction required in other cases.*

By this enactment, the sole control over personal liberty of married women and minors and the quasi-judicial determination of

*Read at the Sixty-eighth Annual Meeting of the American Medico-Psychological Association, Atlantic City, May 29, 1912.

the question of their insanity were illegally placed in the power of persons who were not the proper officers of the law, for such purpose, and it is almost needless to add that any married woman who could show that she had been sent to and confined in the asylum for insane against her will under this process whether really insane or not, would have a valid claim to further proceedings to determine the questions of sanity and liberty, and could incidentally, in carrying out such proceedings, create much unpleasantness for the trespassers upon her personal rights; for notwithstanding "Clause No. 10" forcible conveyance to the insane hospital was "kidnaping" and detention there was "false imprisonment," if done without the patient's consent, or without express warrant of a competent court of law. Matters were thus left in unpleasant shape for any husband who combined with a hospital superintendent to exercise the power seemingly conferred by "Clause No. 10," and place a wife in the hospital for insane. Such proved to be the case in the instance with which we are dealing. The patient in question was a woman of ready wit, indomitable energy, persuasive eloquence and fine personal appearance, although she had been on both sides of the "border line" between sanity and insanity, and in such a case it may be said that a "little madness" like a "little learning" was a dangerous thing for those at whom its shafts were aimed—more serious indeed than either stark madness of entire sanity.

The public reaction against this unwarranted exercise of the power of commitment, when a case of the kind finally attracted general attention, went to such extreme length that a new law was eventually placed on the statute book which forbade under penalty of fine and imprisonment that any citizen under any circumstances should enter the hospital of the state without a jury first "sitting" publicly upon his case. This was the celebrated "Jury Commitment Law" of Illinois, and the prime mover in originating it and securing its passage was Mrs. E. P. W. Packard, who had been committed and detained three years in the state hospital under the vicious commitment "Clause No. 10"; and this fact opened to her a brilliant career as a martyr to tyrannical legislation and conferred upon her a great distinction as reformer and "deliverer of the oppressed" throughout the length and breadth of the land—a career in which she manifested a high order of ability to muster

and organize her forces; also to sway legislative bodies by her eloquence, not only with Illinois as her battle-ground but in Massachusetts, in Maine and in Iowa. She also made bold, though non-successful campaigns in Connecticut, in New York and in Washington, D. C. But it is specially important to understand in this connection that the thing which gave power to Mrs. Packard was not so much her own merit and skill, though she had her share of these, nor the weakness and folly of legislative bodies, though these too are well known, but the fact that there was a strong reaction against a wrong which had been done under a form of law, and the feeling that such error or weakness in the law must be corrected at all hazards, even the hazard of over-correction and this strong feeling remained for twenty-six years in the minds of legislators, as an insurmountable barrier to better enactments, though proposed again and again.

I desire to present a brief statement of the facts in this case and of the legislative career of Mrs. Packard, and to advert to the present *status* of the law in Illinois.

Dr. W. R. Dunton several years ago presented in the Johns Hopkins Bulletin[1] a thorough and admirable study of Mrs. Packard to which I am much indebted. I have also made use of seven volumes belonging to me of Mrs. Packard's curious writings and of the official documents in the case.

The starting point of our narration is the home of the Rev. Theophilus Packard, a Presbyterian clergyman in charge of a Congregational church in the little village of Manteno, Illinois. His wife, Elizabeth, and he had lived together twenty years and six children had been born to them. He was fourteen years her senior and she was forty-three approaching her chinacteric. Little is known of their previous life except that they came from Massachusetts where her father was also a clergyman. Dr. McFarland in discussion before this Association found in volume twenty of the American Journal of Insanity (p. 88 *et seq.*), states her mother had been insane and she herself at twenty had been in the Worcester

[1] "Mrs. Packard and Her Influence on the Laws for the Commitment of the Insane," by W. R. Dunton, Jr., M. D., Assistant Physician Sheppard and Enoch Pratt Hospital, Towson, Maryland. Johns Hopkins Bulletin, Vol. XVIII, No. 199, October, 1907. Also "Further Notes on Mrs. Packard," Idem. Vol. XIX, No. 208.

asylum: also that she was well educated and of bright mind and had been a teacher in a young ladies' school. The records of the Worcester hospital show that one Elizabeth P. Ware was committed by the judge of probate February 6, 1836, and discharged recovered March 18 of the same year. The transcript of the history, kindly furnished me by Dr. E. V. Scribner states "she was an interesting and intelligent girl" and certainly in later life as Mrs. Packard she was a woman of bright mind and a ready talker and writer. It, furthermore, appears that the Bible-class of the Manteno church was in a languishing condition in the year 1860 and in order to "get up an interest" the deacon in charge of the class invited the pastor's wife to appear and present her views on Bible topics, which views were known to be original and interesting. The good wife referred this request to her husband and his reply as quoted by her was, "I think you had better go,wife, and see if you can help him. I will take care of the babe during the intermission so you can be free to go." The husband appears thus to have taken an advanced position, worthy almost of the present day, which, however, he failed later consistently to maintain; and the wife, who would have been worthy to serve as a leader in the ranks of the militant and insurgent women of our own time, appeared before the Bible class and delivered most interesting opinions on total depravity, right of private judgment, God's immutability, freedom of conscience and the like, which aroused keenest interest and brought the membership of the Bible class in a short time from seven to forty-six. But the deacon, in throwing open the class to free discussion, soon had a series of such lively and contentious debates and so much heterodox opinion to deal with that all agreement and authority vanished and it appeared the agitation in which Mrs. Packard was the leader, must cease or the church become seriously disrupted. The principal point of difference was Mrs. Packard's denial of Calvanistic doctrine. The deacon now proposed to the pastor that his wife should give up these Bible class discussions, and the pastor made the same proposal to his wife. She, however, insisted that her husband should either defend her in her honest opinions or else announce that he had forbidden her to continue her Bible-class activity and as he would take neither of these courses, she allowed her displeasure to be generally known, and, later, on a Sunday when service was in

progress and her husband was in the pulpit, entered the church, interrupting the proceedings, demanding to know if the officers of the church were present, and insisting that a letter of dismissal should be immediately forthcoming. Her conduct was eccentric and, whether it was valid evidence of insanity or not, led her husband to the belief that she was insane and should be committed to the asylum; and of course a certain amount of bigotry and intolerance complicated the situation on both sides. Soon after this Mrs. Packard was placed on board a train and taken by her husband to the state hospital at Jacksonville. At the railroad station she refused to go voluntarily, and being advised that force would be used, suggested that a couple of gentlemen among the crowd collected about, should clasp their hands so as to form a "saddle seat" for her, and thus she rode from the platform to the car. The sheriff was present and directed the proceedings, but it afterwards transpired he had no legal warrant and in fact, had been refused a writ in the probate court, but felt satisfied in acting under the "Clause No. 10" above referred to. Arriving at the hospital for the insane, the medical superintendent received and detained Mrs. Packard (as expressly authorized) under the vicious sanction of "Clause No. 10." He was exercising a supposed legal right and the error was in the law not in him.

Mrs. Packard found herself, at first, pleasantly surrounded and interested in her new environment. She appears to have been quite privileged; to have assisted in entertaining other patients, etc. But, after about four months, was placed in a disturbed ward.

In her book published after her release and at the legislative investigation, she made various accusations which time will not permit us to consider here further than to say that evidence conflicts and *animus* is so apparent as to render candid judgment difficult. It seems probable, however, that Mrs. Packard though probably sincere was carried away by her zeal for reform and instead of weighing evidence impartially made herself believe what accorded most with her purpose of bringing about "reforms."

At the end of the third year of her confinement at the state hospital, Mrs. Packard was ordered removed by the trustees of the hospital and taken to her home by her husband where, being again confined against her will, she smuggled from the window

to a passerby a note addressed to a neighbor, who, consulting the county judge, was advised that if she was restrained of her liberty, a writ of *habeas corpus* would lie and such a writ was accordingly sued out.

When the hearing took place before the county court in Kankakee, very general attention was aroused. Public sentiment strongly favored Mrs. Packard, and it naturally followed that the hearing before a jury resulted in a verdict of sanity.

The time and space forbid discussion here of the question of her sanity; it would easily make an article of itself; but I will have a few words to say on this point before closing. She manifested a skill and shrewdness in apprehending legal points and in power of winning people to her views that were quite remarkable, even allowing for the advantage her sensational asylum career secured for her. And whether her cause was bad or good she exhibited heroism in its prosecution. She now started upon a general career of agitation in various states of the Union for reform in the commitment laws; in the laws regulating the administration of the asylums, and also those affecting the legal *status* of women in general. She acquired the "sinews of war" for her campaigns by canvassing for the sale of the book she intended to publish. She gave to everyone she met, who would accept them, written promises to furnish her book when published in exchange for small sums of money. Making a beginning in this way she met with much success and later was enabled to publish and sell enough books to support herself; indeed, eventually clearing many thousands of dollars. She in the end acquired property, bought a good home in Chicago and compelled her husband in Massachusetts to surrender their minor children to her custody, taking their care and education upon herself.

After her release from the insane hospital, in 1865, she first went to Massachusetts and in March of that year, being given a hearing before a committee of the legislature, presented two bills. No. 1 was worded as follows: "No person shall be regarded or treated as an insane person or a monomaniac simply for the *expression of opinions,* no matter how absurd these opinions may appear." This law she alleges was needed for the personal safety of reformers. No. 2 was worded as follows: "No person shall be imprisoned and treated as an insane person except for *irregularities of con-*

duct such as indicate that the individual is so lost to reason as to render him an unaccountable moral agent." These bills or sections of bills were enacted by the legislature and are found on p. 268, Sec. 2, of the General Laws of Massachusetts, according to Mrs. Packard's statement in her book.[2]

In the winter of 1866 Mrs. Packard returned to Illinois and inaugurated her struggle to secure a jury trial for all persons committed to the state hospital for insane. What she called her "personal liberty" bill was introduced in the legislature. This bill required in all cases a verdict of a jury and an order of court in the case of commitment of any person to any hospital or asylum for insane. The bill also provided penalties of fine and imprisonment for violation, and as Mrs. Packard alleged that scores of sane persons were imprisoned at Jacksonville, ordered and required that all persons *now* detained in the state hospital for the insane should be entitled within sixty days to be taken to court and given a public hearing before a jury. A law had previously been passed in 1865, doubtless to remedy the mischievous provisions of "Clause No. 10," requiring a jury trial. But a general agitation of the question of commitment was now brought about and Mrs. Packard's allegations, that large numbers of sane people were held in the state hospital, met with such credence that the additional provisions for a hearing in the case of all persons now in custody and for fine and imprisonment were attached to the bill. In this connection it may be noted that the formal judicial inquest as to insanity of the total population of the hospital at Jacksonville which later took place, did not result in the expected discovery of any sane persons held as insane.[3]

The so-called "personal liberty" bill was finally approved by Governor Oglesby on March 5, 1867. In this same year a committee was appointed to investigate the institution at Jacksonville, and during a period of several months conducted an investigation of an unusual sort which, however, was manifestly an *ex parte* procedure—the committee refusing to allow the superintendent or trustees to be present at the hearings which were held in various parts of the state but not at the hospital itself. The committee also advertised in the public press for complaints against the manage-

[2] Modern Persecution, Vol. II, p. 100.

[3] Trustees Biennial Report, Dec., 1868, pp. 8 and 9.

ment, and a vast number were collected, which Mrs. Packard "edited" with great ingenuity. The committee adopted its course with such evident bias against the management and against Dr. McFarland personally, that there was much protest against their methods, and the recommendation they made for Dr. McFarland to be discharged was opposed by many disinterested persons. The old board of trustees were now reappointed by the governor and after reappointing Dr. McFarland, themselves resigned. There was then no power to displace the superintendent until another session of the legislature could convene.

After Mrs. Packard had been instrumental in carrying legislation in Massachusetts and Illinois she endeavored to secure the passage in Connecticut of a law equalizing the property rights of husband and wife. She was incited to this by the fact that her husband had kept property of hers in his possession and could legally appropriate her earnings even now. She was, however, unsuccessful in her efforts in Connecticut, although given a joint public hearing by House and Senate, yet in the midst of what seemed a most successful campaign, support was suddenly withdrawn. She alleges that the publication of her alleged "love letter" to Dr. McFarland in the press of New Haven together with other, as she claims, untrue and scandalous matter, turned the tide against her. The particulars of this are not accessible.

Mrs. Packard then turned her attention, for the time being, to Iowa, and in 1872, after numerous hearings before the legislative committee, and a large amount of lobbying, her bill was passed, conferring special privilege of correspondence upon inmates of asylums and requiring that all letters written by patients to certain designated outside correspondents or to members of the boards of charity should be forwarded unopened, also establishing a visiting committee with a woman member upon the board. The bill also provided that at least once each week patients should have writing materials and other facilities for correspondence, which should be forwarded unopened by the superintendent. Letters addressed to the patients also were forbidden under heavy penalties to be opened by any person but those to whom they were addressed. This law was passed with an emergency clause as being of immediate importance.

Mrs. Packard later, in 1874, visited the state of Maine and was instrumental in having a law passed there which provided for a visiting committee with a woman upon the board. When shown through the state asylum at Augusta, after conversing with the patients upon the wards, she stated to the chairman of the visiting committee that there were at least fifty patients who ought not to be in the institution though nothing is given to substantiate this charge. She presents a commendatory letter, however, from Governor Dingley with reference to the working of the law. In 1875 she visited Washington and was given a hearing before congressional committees of House and Senate with reference to a bill for the national protection of the "postal rights" of the inmates of insane hospitals. She was at first "turned down" by Postmaster General Jewell, and was disappointed in gaining an interview with President Grant, but she was given access to Mrs. Grant, who bought two of her books and made an appointment for her with the president, and General Grant later received her and expressed his approval of her bill which was eventually reported favorably by committees of both House and Senate, but never taken up for passage. The bill provided among other things that a government letter box should be placed upon the premises of all asylums for the insane, public and private, whenever requested by the authorities of the several states and should be accessible to all the inmates personally.

I will now give a few words to Mrs. Packard's mental condition. She appears to have been a patient belonging to the paranoiac class, possessing a remarkable fluency and a pleasant personal address, yet the victim of delusions of a religious form. The mental disorder from which she suffered related almost solely to ideas of a mystical character. Her views upon Calvinism and total depravity, which were the "apple of discord" in the case, had nothing necessarily pathological about them. Taking her own attitude and writings one meets with extraordinarily inconsistent assertions and ideas. In the dedication of her book called "Modern Persecution, or Insane Asylums Unveiled" she calls herself "the mother of her country, and her sons and daughters are—*The American Republic.*"

The testimony of a physician who examined her when first sent to the hospital was that she considered that calling her insane . . .

" was blasphemy against the Holy Ghost." She quoted this testimony herself in her book and does not take occasion to deny it. Dr. McFarland found she entertained the belief that she was the third person of the Trinity; the first and third persons being divine man and woman; their offspring was the Son of God, and she the mother of this Son. Her counsel took pains to explain that this theory about sex of the persons of the Trinity had been advanced by theologians in olden times and might be held by sane persons; but apparently he overlooked the irrationality of her application of this idea to herself personally. She saw, as she states, nothing insane in the claim of another patient who claimed to be Jesus Christ.[4]. Mrs. Packard also maintained " with the utmost gravity and earnestness," so the Rev. Dr. Sturtevant, president of the Illinois College, states, that her husband was literally " the great red dragon of revelation."[5]

Whatever Mrs. Packard's mental state, and of this it is difficult to judge absolutely, one is compelled to regard her as either insane or lax in morality, in writing her celebrated " love letter " to Dr. McFarland. This letter which she wrote to the doctor after she had been two and one-half years in the hospital reads as follows: * * *

My heart has never been wedded. It is whole and sound and unappreciated except as you, the first true man I have ever met, accept it. I know this is a bold step for me to take, but you know I am *dauntless* in the *right*. I have a right to love a true man, and if he is the true man I take him to be, it won't offend him or expose my honor or virtue to let him know it too. I wish no one except yourself * * * to know of this act. My own heart does not condemn me for this act, neither does God condemn me for loving his image.

Yours in the best of bonds,

Elizabeth.

When this letter was introduced in evidence at the legislative investigation, Mrs. Packard freely admitted writing it. She also admitted that she at the time knew Dr. McFarland to be a married man and that she herself had a living husband. She introduced a

[4] Modern Persecution, Vol. I, p. 347.

[5] Special Report of the Trustees of the Illinois State Hospital for the Insane, 1868, p. 39.

written explanation of the letter the purport of which was as follows:

> First, I love God. * * * Second, I love myself. * * * Third, man is made in God's image. * * * Fourth, my spirit in its present embodied form needs and calls for a protector, etc.

She herself wrote this letter also (as her book shows), while she entertained what seems like a delusive belief that Dr. McFarland had been guilty of the grossest immorality. In her "Mystical Key"[6] referring to a time when she had been four months in the hospital; she remarks:

> There were confined in this, one of the worst wards in the house, some very attractive ladies who seemed to be perfectly sane, and insisted they were put there for the doctor's especial accommodation. These facts were communicated to me in confidential tones while under their windows on the outside.

In view of these facts one is compelled to regard Mrs. Packard as either insane or lax in morality and as other evidence of moral laxity or lax conduct on her part is lacking, disorder of mind seems the more probable explanation. All things considered, the question of her insanity seems to require further elucidation.

The undesirable and injurious results of the Jury Commitment Law may now be briefly considered together with the advantage gained by the statute replacing this law which has been in operation since 1893. The former law failed to recognize the distinction between a trial and an inquest. The adjudication of insanity followed the line of criminal procedure. The unfortunate patient was "accused" of insanity and if "convicted," taken into custody by the sheriff exactly as in criminal procedure.

The entire annals of the insane in the state of Illinois furnish no greater evidence of cruelty to the insane and their friends than this so-called "reform" so zealously promoted by Mrs. Packard. As a matter of fact, more sane persons were found insane by jury trials; as shown by the reports of the institutions from year to year, than were ever wrongfully committed under the earlier system. The effect upon the patient was frequently detrimental; the impression gained by the proceedings arousing in his mind the idea that the court proceedings were for the purpose of substantiating

[6] Page 60.

some charge against him, and when found insane he believed himself innocently condemned.

Another, and a most serious injury entailed by this law, was the procrastination of all suitable care and treatment. The conveying of a patient to court and affixing upon him what was considered as "the brand" of a public record of insanity was such a repugnant procedure that serious harm was done to the patient by the delay in seeking the care of the hospital. Rather than go through this ordeal the friends would leave the patient without care or suitable treatment for months and even years; his insanity in the meantime becoming chronic and incurable. Dr. Hack Tuke of London in his work on "The Insane in the United States,"[7] writes as follows:

> The publicity is a serious objection, and I was informed that people often kept their friends at home rather than make their insanity known. He also quotes my own remarks, that "The best feelings of all right minded persons are outraged by seeing presented in court the depraved and unnatural acts and speech of otherwise reputable men and women."

Dr. Archibald Church, at an indignation meeting held for discussion of this law, February 16, 1891,[8] stated he had seen

> "a man suffering from acute mania shackled hand and foot, and then placed in a canvas sack and carried 30 miles to the county seat, and subsequently on the same day brought 50 miles to the asylum." He had seen "a woman of medium stature tied with 40 feet of rope, held by four men and carried in an open wagon 20 miles to be tried."

It is impossible in the space at my command to discuss the law at present in force, which was passed in 1893, further than to say this law provided for appointment by the court of two medical commissioners to examine into the mental condition of the patient and report their findings. These were reviewed by the court and warrants issued for commitment or not, according to the discretion of the judge. The law left the jury trial available to any patient who should request it. It also provided for voluntary commitment previously unknown in Illinois. It was provided that inquests in lunacy should be in open court or in chambers at the discretion of the court. Court was also authorized to re-

[7] "The Insane in the United States and Canada," by D. Hack Tuke, M. D., LL. D., London, 1885, p. 69.

[8] Chicago Medical Record, March, 1891.

quire all persons not directly interested to withdraw from the court room during the inquest. The law also provided for freedom in correspondence and communication with friends on the part of patients; also required that a record should be kept of all restraint or seclusion practiced in the institutions, and that these should only be employed upon the order of the physician in charge. Provision was also made that "any person who may be in the early stages of insanity who may desire the benefit of treatment in a state hospital for the insane as a voluntary patient, may be admitted to such hospital on his own written application, accompanied by a certificate from the county court stating" etc., "*Provided,* That all voluntary patients shall have the right to leave the hospital at any time on giving three days notice to the superintendent."

With reference to the working of this law I will briefly state the experience obtained in the 19 years during which it has been in operation.

The process of adopting the new procedure was somewhat slow, as is always the case with the establishing of new legal precedents. In Cook County, with the city of Chicago within in its borders, no change of procedure was brought about for several years. The vast majority of the cases from this county were and are still accumulated from week to week in the detention hospital and disposed of by jury trials on a certain day of the week—the number ranging from a minimum of 10 or 12 to 30 or 40 in each successive week. In Cook County the cases are quite exceptional where a commission is appointed, chiefly in view of the fact that in certain cases where a commission was appointed, troublesome litigation ensued; rather from local causes than from any defect in the law. Even Cook County, however, is adopting the commission form of procedure with increasing frequency and no dissatisfaction with the law has ever come from any source to my knowledge.

I present, herewith, a table showing that of the total commitments in the state of Illinois for the year ending September 30, 1911, (2377), 1219 were by warrant issued on medical certicate; in other words, *without* jury trial; and 928 were by verdict. These 928 jury commitments were almost wholly from Cook County. Taking the five institutions which do not receive patients

from Cook County; out of 1216 commitments there only 215 by jury verdict, of 1362 committed, to these, 1263 were committed by medical certificate. The difference of 99 was made up of voluntary cases, mittimus cases, etc., and in the commitments for the Central Hospital of Illinois for the biennial period ending June 30, 1911, of 660 patients all but 114 were committed by medical certificate. There were also in the year ending September 30, 1911, 177 voluntary commitments. The working of the present law has been without criticism or friction or any complaint of illegal commitment or false imprisonment.

COMMITMENTS IN THE STATE OF ILLINOIS FOR YEAR ENDING SEPTEMBER 30, 1911.

How Committed.	Institutions.							Total.
	Elgin State Hospital.	Kankakee State Hospital.	Jacksonville State Hospital.	Anna State Hospital.	Watertown State Hospital.	Peoria State Hospital.	Chester State Hospital.	
Medical certificate .	59	159	304	330	168	199	.....	1219
Prison certificate ..	.....	.....	.....	.....	.....	.....	17	17
Verdict.....	339	374	42	34	74	65	.....	928
Mittimus	.....	4	.....	.....	2	.....	14	20
By order of court..	.....	.....	7	.....	.....	.....	.....	7
Voluntary	10	35	13	7	61	51	.....	177
Transfer	.....	.....	.....	.....	.....	.....	4	4
Reinstated escapes .	.....	.....	.....	5	.....	.....	.....	5
Totals for year ..	408	572	366	376	305	315	35	2377

A STUDY OF HEREDITY IN EPILEPSY.

By EVERETT FLOOD, A. M., M. D.,
Superintendent State Hospital, Palmer, Mass.,
AND
MISS MARION COLLINS,
Fieldworker.

It has been generally recognized that epilepsy is, to some extent at least, an inherited disease, and for that reason some record of heredity is filed in the case histories of institution patients. Such information, however, is usually fragmentary and often is entirely lacking. In order to obtain fuller information in regard to the hereditary factors in epilepsy, the Monson State Hospital for the last fifteen months has employed a fieldworker to go to the homes of the patients, and from the parents, relatives, and family physician secure all possible facts that may throw some light on the subject.

Every mating may be regarded as an experiment in breeding of the human race, and rightly to interpret the results of the experiment, the conditions under which it occurs must be carefully observed. Inheritance is from the germ-plasm, the somatic nature of the individual interpreting only in a partial degree his gametic nature. A study of all the offspring of a given mating shows the possibilities of the union of two given strains of germ-plasm. With these results in hand, the next step is a careful study of the parents and their fraternities to learn the nature of their germ-plasm. Light is thrown on this by a study of their fraternities as well as by a study of themselves and their parents. While any factors that may be significant are recorded, epilepsy, insanity, feeble-mindedness, alcoholism, syphilis, tuberculosis, extreme nervousness and sick headaches in the relatives of the patients are made the subject of special inquiry.

The material for this study is from the pedigrees of seventy-eight of the patients at the Monson State Hospital. In connection with these, there are some pedigrees of allied families, making

ninety pedigrees on file. A few of the pedigrees are somewhat incomplete, but a large number of them have been extended so far that a single one may furnish sufficient data for the study of the family history of from two to five cases of epilepsy.

The pedigrees have been examined with the view of obtaining light upon the relation of alcoholism in the parents to epilepsy in the children. In the correlation table alcoholism is considered present in parents when they are believed to use alcohol in excess. Epilepsy is considered present when there is good indication that it may be in the germ-plasm; that is, if it occurs in the parents, in their fraternities, in first cousins, or in direct line of descent. The vertical lines show the paternal side; the horizontal lines, the maternal side. Thus, the second square in the fourth row from the top reads: "Mother neither epileptic nor alcoholic; father epileptic but not alcoholic." The number in the pedigrees is given to indicate the relative weight of each case.

It will be noted that there are only two cases in which both parents are alcoholic but not epileptic. In the first case, EN II, both parents were very alcoholic. In fifteen years the mother had been in court twenty-five times for drunkenness, serving sentences of from three to nine months. The father was also a confirmed drunkard. Of five children, three died in infancy, one daughter is normal and well spoken of, the other developed epilepsy at seventeen years with no exciting cause. One sister of the father died a drunkard, the other three in his fraternity are undescribed, as are also his parents. The mother's mother died of tuberculosis, the mother's father of Bright's disease. No further record could be obtained. While, therefore, that case is considered as epilepsy absent in both parents, it cannot be positively said that there is no defect in the family. The other case, Kg, is more complete. Both parents are heavy drinkers and the mother is also considered mentally unbalanced. Of their children, one became epileptic at fifteen years, the other drinks heavily. All the fraternity of the mother are normal, and her parents are reported normal. One brother of the father is alcoholic, otherwise that family is apparently normal. Thus in all the descendants of the grandparents on both sides, there is only one case of epilepsy. This case, therefore, suggests that alcoholism in the parents may have been the cause of epilepsy in the child.

TABLE I.*

CORRELATION OF EPILEPSY AND ALCOHOLISM IN MATINGS WHICH PRODUCE EPILEPTIC OFFSPRING.

Vertical lines show paternal side, horizontal, maternal.

FATHERS.

MOTHERS.

	No E. A present.					No A. E present.					E present. A present.					No E. No A.				
	Case	E	A	No. in frat	No. in ped	Case	E	A	No. in frat	No. in ped	Case	E	A	No. in frat	No. in ped	Case	E	A	No. in frat	No. in ped
No E. A present.	En II	1		5	26	Ws II	1		7	57										
	Kg	1	1	2	43															
	Total	2	1	7		Total	1		7											
No A. E present.	Rn II	1		3	195	M 1	1		8	64	We II	1		6	36	As	1		5	77
	My II	2		6	108	Ds	1		1	27	Dy II	2		6	30	Br I	1		1	23
	C B	1		4	86	Gn	1		3	83	Dm	2		6	79	Mi	2		4	64
	Ln	2		20	37	Fw	1		8	31	Dy	5	2	12	86	Hn	3		10	51
	Aw	1		6	71	Kt	3		11	51						Dw II	1	1	3	35
	Mx	1		11	46	E 5	1		11	50						Wt	1		10	54
						E 5	1		7	50						Sl	1		9	305
						Bn II	1		6	25						Pl	1		1	26
						Be	1		10	27						Vt	2		7	28
																R S	1		1	43
																B F	2		3	39
																Br 1	1		2	23
																Br 2	1		3	21
	Total	8		50		Total	11		65		Total	10	2	30		Total	18	1	59	
E present. A present.	Pk	1		9	48						Ma II	2		5	55					
No E. No A.	Ml	3	2	11	46	Gs IV	1		3	37	Sn III	2	2	10	44	De II	1		6	64
	Bh II	1		6	49	As IV	2		6	40	Gu	1		1	69	Cn	3		4	22
	Tr	1		3	30	Wc	2		8	48	Aw	2		6	71	Fe II	2		7	38
	Sg	1	2	6	16	M E	1		6	25	Dn	1		7	39	Bs	3	1	6	69
						Wn	2		8	50	Mh	1		7	27	Pk II	2		3	49
						Ty	1		7	143						Gr	1		4	35
						Dt	1		5	29						Tn	1		9	29
						Wr	1		3	36						Bg	1		10	22
						Hy	1		10	37						Se	1		3	39
						Es	5		13	30						Rh	1		4	67
						Ky	2		7	47						Hd	4		10	48
						Bk	2		4	29						Wb	4		11	73
						Gt	1		4	23						Wb	1		2	73
						Bs	2		6	69						Or	1		7	23
						Gn	1		1	83										
	Total	6	4	26		Total	25		91		Total	7	2	31		Total	26	1	86	

* The tables in this article were compiled from the records of the Monson State Hospital by Miss Marion Collins, Field Worker, with the assistance of the Eugenics Record Office.

In connection with this the Eugenics Record Office gave the privilege of examining pedigrees of non-epileptic strains for matings of two alcoholic parents. Eight such matings were found as follows:

9-269, III 26-27. Both parents alcoholic, criminality and sexual immorality on both sides of the family. Two children died in infancy; one is criminalistic and immoral; the youngest, thirteen years of age, is very nervous, but not epileptic.

9-269, III 19-29. Both parents alcoholic and sexually immoral. Of nine children, one is epileptic, alcoholic and immoral. One is normal, six are alcoholic, one drinks some but not to excess. The father's parents in this case are not described. The mother's parents were both alcoholic.

9-269, I 6-7. Both parents alcoholic, further ancestry not known. Two daughters and two sons alcoholic and immoral, one a fairly good woman who drinks some.

9-269, III 61-62. Both parents alcoholic, two children alcoholic and immoral, one son drinks some, one boy frail.

9-295, IV 8-9. Both parents alcoholic and sexually immoral. Five children, of whom three died in infancy. The two girls who remain are of doubtful reputation, and not of average mentality.

9-33. Both parents alcoholic and immoral. Eleven children. Three died in infancy, five are immoral, two are feeble-minded, and one is criminalistic.

3-325. Both parents alcoholic. One child criminalistic, one died at four months of spasms, three are still under ten years, one daughter is alcoholic and immoral, one son criminalistic and immoral.

3-350. Both parents alcoholic. Three children criminalistic. Three miscarriages. One child under thirteen years. Father's father insane and mother's brother alcoholic.

This data is too insufficient for drawing any conclusion, or even for basing an opinion. Still, the suggestion is made that before concluding that alcoholism in parents is a cause of epilepsy in the children, a careful study of many family histories should be made. On the other hand, a glance at the table shows rather clearly that alcoholism may be closely associated with epilepsy. A surprising feature of the table is the small proportion of alcoholics recorded in the offspring. This may partly be accounted for by the fact

TABLE II.

CORRELATION OF EPILEPSY AND FEEBLE-MINDEDNESS IN MATINGS WHICH PRODUCE EPILEPTIC OFFSPRING.

Vertical Lines Show Paternal Side, Horizontal Lines Maternal.

FATHERS.

MOTHERS.

	No E. F present.					E present. No F.					E present. F present.					No E. No F.				
	Case	E	F	No. in frat	No. in ped	Case	E	F	No. in frat	No. in ped	Case	E	F	No. in frat	No. in ped	Case	E	F	No. in frat	No. in ped
No E.	Bs I	3	1	6	69	Aw	2	4	6	71	Bs III	2		6	69	De III	1		6	64
	Tr II	1	1	3	30						E3 III	5		13	30	Fe II	1		7	38
F	Rh III	1	1	4	67											Hd II	2		10	48
pres-	Wb	4	5	11	73											Bg	1		10	22
ent.	Wb	1	1	2	73															
	Wt	1		10	54															
	Total	11	9	36		Total	2	4	6		Total	7		19		Total	5		33	
E	MyIII	1		6	108	Dy	1		6	30	Dm II	2		6	79	Rs	1		1	43
pres-	Gn II	1		1	83	Ma	2		5	55						Vt II	2		7	28
ent.	Dn II	1	1	7	39	We	1		6	36						Pl III	1		1	26
						Bn	1		6	25						Bh III	1		6	49
No F.						Be	1		10	27						Sw II	1		9	305
						Fw	1		8	31						C B	1		4	86
						Kt II	3		11	51						Mx	1		11	46
						Mi II	1		8	64						Mi	2		4	64
						Di	5		12	86						Br I	1		2	23
																Mg	1		5	37
																Ln	2		20	37
																Br 2	1		3	33
																Br 1	1		1	21
	Total	3	1	14		Total	16		72		Total	2		6		Total	16		74	
E	Rn II	1		3	195	Ds	1		1	27	Gn III	1		3	83	AwIII	1		6	71
pres-	Hn	3	1	10	51						E 5	1	1	7	50	P K	1		9	48
ent.	E 5	1	5	11	50											As	1		4	77
F	Dn III	1	1	3	39															
pres-																				
ent.	Total	6	7	27		Total	1		1		Total	2	1	10		Total	3		19	
No E.	Sg	1		6	16	As IV	2		6	40	Bk III	2		4	29	Cn III	3		4	22
						Ky	2		7	46						En	1		5	26
No F.						Mh	1		6	27						Ml	2		11	46
						Sw	2		10	44						Pk II	2		3	49
						G S	1		3	37						Gr II	1		4	35
						Gw	1		1	69						Tw	1	1	9	29
						Ws	1		7	57						Or	1		7	23
						Gt	1		4	23						Kg	1		2	43
						Wc	2		8	48						Se	1		3	39
						M E	1		6	25										
						Wn	2		8	50										
						Hy	1		10	37										
						Wr	1		3	36										
						Ot	1		5	29										
						Ty III	1		7	143										
						Kg 2	1		3	33										
	Total	1		6		Total	21		94		Total	2		4		Total	13	1	48	

that as it is more common in males than in females, the number of females in the fraternities reduces the proportion; further by the fact that the total number in the fraternities includes the unknown and those who died in infancy. Cases under institutional care are unable to obtain alcohol.

The cases in which epilepsy is present in one or both of the parents may pass here without comment. A significant feature of the table is the number of cases which come under the heading of

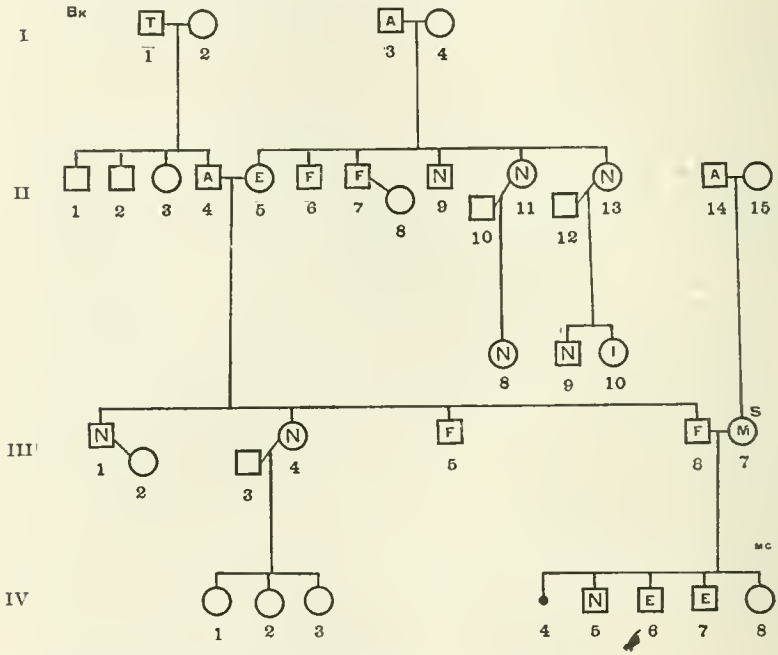


CHART I. Bk. This chart shows half of each fraternity defective. The mother of the patient has severe sick headaches and shows some signs of inherited syphilis. The father is feeble-minded and has periodic attacks of violent temper. One of his brothers was also feeble-minded, while one brother is a capable business man and a sister is normal. The mother of these was epileptic with two feeble-minded brothers and an insane niece. The father was alcoholic. The patient has one brother epileptic, another normal, and a sister now eleven years old who is healthy and normal.

epilepsy and alcoholism absent in both parents. This will be considered after an examination of Table II—Epilepsy and Feeble-mindedness.

In the correlation of epilepsy and feeble-mindedness six cases fall under the head of no E, F present in both parents. While the same objection might be raised in this case as in the parents A+E, with epileptic offspring, that a further search in the pedigree might reveal cases of epilepsy, a study of pedigree charts shows epilepsy occurring frequently with feeble-mindedness. Davenport and Weeks in *A First Study of Inheritance in Epilepsy* have pointed out that "epilepsy and feeble-mindedness show a great similarity of behavior in heredity." Chart I Bk, shows feeble-mindedness and epilepsy existing side by side, seeming to indicate that the same defect appears in either form.

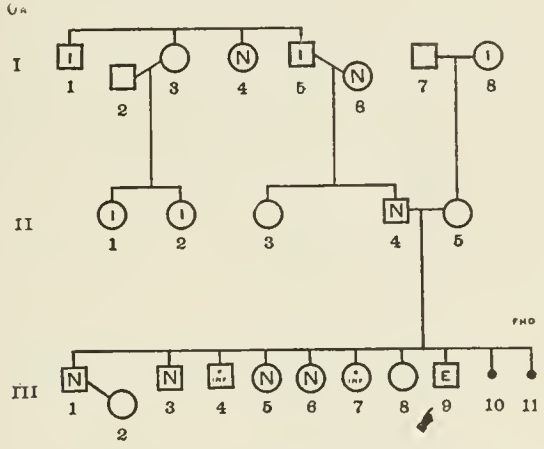


CHART II. Or. This chart shows the defect appearing as insanity in the ancestors and as epilepsy in the child. The father of the patient, II, 4 is a normal, temperate, and intelligent man; but his father, uncle and two cousins were insane. The mother of the patient, II, 5 is slightly inferior mentally, and her mother was insane at times from the age of thirty till her death. Of the children, three are normal, two died in infancy, one is delicate, and the patient III, 9 is epileptic. There were two miscarriages.

The group in which epilepsy and feeble-mindedness are absent in both the parents and the cases in which alcoholism and epilepsy were absent in both parents, point to the fact that some further causes must be sought in the heredity. The Or chart throws some light on this subject. This is a case in which there is insanity on both sides of the family. The epilepsy came on in the child when between five and six years, just after beginning school and six

weeks after vaccination. Examples could be multiplied where the defect of insanity seems to appear as epilepsy in the offspring.

The small number of cases in the different groups in the correlation table makes the percentages of affected offspring of little value, particularly as the number in the fraternity includes the unknown and those who died in infancy. Furthermore, unaffected individuals may develop epilepsy at almost any age. Subsequent studies may be made, considering the ages of those unaffected and weighing the possibilities according to their ages. Another factor to be considered is the nocturnal epilepsy of which the relatives and even the person affected may be ignorant.

In the studies that have been made of epilepsy, it appears that epilepsy acts as a recessive trait. It also seems probable that feeble-mindedness is a trait that is associated with epilepsy, and epileptics may spring from either epileptic or feeble-minded parents. In some cases, also, such other neuropathic conditions as insanity on one or both sides of the family are found in the line of descent of the epileptic.

Assuming without further discussion that epilepsy is inherited in Mendelian fashion, the material has been classified according to two hypotheses.

Hypothesis I. Epilepsy is a recessive trait, inherited only from epileptics and appearing only as epilepsy. Fittings have been made as closely as possible from all the evidence that the charts contain.

In this table every individual not actually epileptic is classed as normal, disregarding every other trait. Individuals are marked X who are unknown, or who died in infancy. Epileptics are considered 0. Individuals, themselves normal, but transmitting epilepsy, are marked 1, or simplex. Normal individuals with normal offspring are considered duplex and are marked 2.

Under Case I, 0 x 0, are two cases with both parents epileptic. Under these conditions one would expect 100 per cent epileptic. The figures show seven children. Two of these died in infancy, two are epileptic, and three are not epileptic. In the Bn case, the father had epileptic attacks from his twelfth to his thirty-fifth year. The mother began to have epilepsy between her fifteenth and sixteenth years and it still continues. The attacks are of the petit mal type. The children are as follows:

HYPOTHESIS I.

EPILEPSY IS A RECESSIVE TRAIT, AND IS INHERITED ONLY AS EPILEPSY.

Classification of Matings According to Hypothesis I.

I. 0 x 0.

Case	E	N	X
Ds IV	1	.	.
Bn	1	3	2
Total	2	3	2

E expected 100%

II. 0 x 1.

Case	E	N	X
Ty III	1	4	2
Dn II	1	6	.
E F II	1	.	.
E 5	1	2	3
As	2	4	.
Vt	2	5	.
Dy	2	3	1
Mi	2	2	.
Br 1	1	.	.
Ds I	1	.	.
Ds II	1	2	.
An	1	1	5
D 1 III	5	5	3
D 1 IV	1	6	3
D 2 II	1	5	1
Wc	2	6	.
Hn II	4	3	2
DmIII	1	.	1
Dm I	2	4	1
Dm II	1	1	.
Kt II	3	5	3
Aw II	1	4	1
P K I	1	3	4
Hy II	1	4	5
Bs II	1	1	.
Bs III	2	3	1
Sa	1	1	4
Total	43	80	40

E expected 50%
E observed 34.9

III. 0 x 2.

Case	E	N	X
Ty I	.	5	.
Vt	.	3	2
Rn III	.	6	5
My II	.	4	.
Bk	.	4	.
Mi 1	.	8	.
A S I	.	3	1
An I	.	3	3
Gn II	.	2	1
Mx I	.	3	6
Ce	.	9	1
We I	.	4	.
Gs I	.	5	.
Gs III	.	2	.
Total	.	61	19

E expected 0%
E observed 0%

IV. 1 x 1.

Case	E	N	X
Bz 2	1	2	3
Ty II	1	.	1
Fk II	1	2	.
Bz II	1	5	.
Wt II	1	8	1
Pe III	1	2	6
E F II	2	2	7
E 3	4	7	1
E 5	1	8	1
Bz 1	1	1	.
Bz II	1	2	.
En	1	1	2
Ky	2	4	1
Sw	2	7	1
Rs	1	.	.
Mh	2	4	2
Pl II	1	2	.
Pl III	1	.	.
Cn	3	1	.
Rn II	1	2	.
Rn II	2	8	1
Ml	3	5	.
My	1	4	1
Cs I	1	3	1
Cs II	1	2	2
Bk III	2	2	.
Bk I	1	5	.
Ma 1	1	5	.
Ma I	1	2	1
Ma II	2	3	.
Bh II	1	5	.
Mi II	1	8	1
Mi II	1	5	2
Br I	1	1	.
Ot I	1	1	1
Ot II	1	4	.
De II	1	5	.
Kg II	1	1	.
Fi	2	1	6
Se III	2	.	1
B F	1	5	2
Ch I	1	3	.
Ch II	1	4	1
Wb II	1	1	.
Wb II	3	5	3
Hd II	4	4	2
Fw II	1	5	2
Mx II	1	8	2
Be I	1	4	.
In 1	4	3	.
Gs II	2	6	.
Gs IV	1	2	.
Tw	1	1	2
Lj	1	3	3
Gr II	1	3	.
Or	1	5	2
Ce	1	.	.

V. 1 x 2.

Case	E	N	X
Gu	.	4	.
Mg	.	4	.
Tr	.	2	.
Sa II	.	3	.
Total	.	13	.

E expected 0%
E observed 0%

VI. 2 x 2.

IV. 1 x 1.—Con.

Case	E	N	X
Fe II	1	1	5
Sn II	2	4	1
Wc	1	.	.
Hn	1	5	.
Pk I	2	1	.
Tr II	1	2	.
M E	1	3	.
Dm II	1	3	5
Dm II	2	4	.
Dm II	1	3	1
CB I	1	5	5
Kt 1	1	1	.
Kt I	1	.	.
Kt 1	1	1	1
Cy I	1	2	1
Pk II	1	3	6
Ws II	1	5	.
Ws I	1	10	2
Bz I	3	3	.
Wr	1	2	.
We I	1	4	.
We II	1	2	3
Gt	1	3	.
Rh III	1	1	2
Wn	1	2	1
Wn IV	2	6	.
Mg I	1	4	1
Mg II	1	4	.
Mg II	1	4	1
Bg	1	6	2
Kg 2	1	1	3
Kg 2	1	2	.
A S	1	1	2
Wa I	1	7	.
Wa II	1	1	.
Wa II	1	2	.
Wa III	1	2	.
Sg II	1	5	.
D II	1	3	1
Sy	2	.	.
Br 2	2	4	1
Ln II	2	4	14
Gu I	1	5	8
Gu II	1	2	5
Gu III	1	2	.
Gu IV	1	.	.
Total	137	328	133

Expected 25%
Observed 29.6%

E, born 1886. Epilepsy began when he was about fourteen. They are grand mal in type.

C, died of diphtheria at five years. Never had convulsions.

D, died of pneumonia at two and a half years. Never had convulsions.

H, born 1889. Is normal as regards epilepsy.

A, born 1894. Is normal as regards epilepsy.

Al, born 1898. Was slow in school, nervous and difficult to manage. Does not have epilepsy but is not a normal child.

These persons are all young and still have the possibility of developing epilepsy. On the other hand, H and A have passed the age when it developed in the parents. The father stopped having fits before the birth of the two youngest but not before the birth of H, who is not affected.

In Case II, 0 x 1, one parent is epileptic and by hypothesis the other is simplex. Under such conditions 50 per cent of the offspring might be expected to be affected in contrast to the 34.9 per cent who actually are.

In Case III, 0 x 2, all offspring are expected to be normal somatically with half of them carrying the possibility of transmitting the defect. The arbitrary fitting of cases to the hypothesis makes these cases correspond actually to expectations.

Case IV, 1 x 1, assumes that all parents having epileptic children are simplex unless they fall into one of the other classes. In that case we should expect to find 25 per cent affected and the other 75 per cent somatically normal, although 50 per cent would be simplex. What we actually get is 29.6 per cent affected.

Case V, 1 x 2, corresponds exactly with expectations. The only evidence that an individual is simplex is that he has had epileptic children by another mating. We find only four cases of that sort.

Case VI, 2 x 2, includes all cases of normal parents producing normal children. None have been recorded under this heading as they would not differ from such cases not in epileptic strains.

Hypothesis II. According to the second hypothesis, epilepsy, feeble-mindedness and insanity are due to a common defect, behaving as a recessive trait, which may appear in any of the three forms. This naturally shows a larger number of cases, since any epileptic, insane or feeble-minded person is considered as 0.

HYPOTHESIS II.

EPILEPSY, FEEBLE-MINDEDNESS AND INSANITY ARE DUE TO A SINGLE RECESSIVE TRAIT.

I. 0 x 0.

Case	E F I	N	X
Pe II	3	.	.
Pe II	1	.	.
E F I	4	1	2
EF III	6	1	.
Bz III	1	1	.
Wb	2	.	.
Wb	8	.	3
E 6	3	.	.
E 4	1	1	.
E 7	1	.	.
E 3	9	3	.
E 1	7	1	.
E 2	2	1	1
Rn II	1	.	.
Rn II	3	2	5
Ds IV	1	.	.
Hn	5	1	2
Bn	1	3	2
Tr II	2	1	.
Aw II	6	.	.
Aw II	1	3	.
Aw I	3	2	.
Bs I	4	2	.
Bs II	5	.	.
Rh IV	2	.	2
Total	82	23	17

Expected 100%
Observed 78%

II. 0 x 1.

Case	E F I	N	X
Ty I	2	1	1
Ty II	3	3	.
Ty III	3	1	2
Ty III	1	5	4
Ty IV	1	1	6
Ty II	3	.	.
Ty III	1	1	2
Bz 2	1	1	.
Bz	3	7	1
Dn II	3	4	.
Dn III	2	1	.
Pe III	1	2	6
E F I	4	2	4
E F II	3	2	4
As	2	4	.
Vt	2	5	.
Mh	1	4	2
Dy	2	1	2
Bk II	2	2	.
Bk III	2	2	.
E 5 III	7	2	2
E 5 IV	3	1	.
E 3	1	1	1
Rn II	1	1	2
Rn II	1	5	5
Rn II	3	5	2
Mi II	2	.	2
Br III	1	.	.
De	1	5	.
Fi	3	.	6
Ds II	1	2	.
Bg II	1	6	3
Kg 2	1	2	.
As I	1	2	2
As II	1	1	2
An	1	2	3
D 2 II	1	5	1
Gn II	1	.	4
Hd II	3	3	4
Gr I	3	2	2
Fe II	2	.	.
Wc I	1	4	3
Wc III	2	6	1
Tr II	1	2	.
Dm I	2	4	1
Dm II	2	2	5
Kt II	1	2	.
Kt II	3	6	2
Aw III	1	2	3
P K I	1	3	4
Hy II	1	4	5
Bs II	2	.	.
Total	98	129	99

Expected 50%
Observed 43%

III. 0 x 2.

Case	E F I	N	X
My II	..	4	.
Rn II	..	8	1
D I IV	..	4	1
Gn III	..	2	.
Gn II	..	2	1
Ce	..	9	1
Dm III	..	4	3
C B II	..	3	2
Total	..	36	9

Expected 100%
Observed 100%

IV. 1 x 1.

Case	E F I	N	X
Ty IV	1	.	3
Tn I	2	4	3
Bz 2 II	1	2	3
Bz 1	1	4	.
Wt II	2	2	4
Wt II	1	8	1
Dn III	1	2	.
Dn IV	1	1	.
E F I	2	2	7
Bz III	2	4	3
Bz II	2	4	2
Bz I	1	1	.
Bz II	1	2	1
En II	1	1	3
As	1	1	.
Ky	2	4	2
Sw	2	6	2
Rs	1	.	.
Pl II	1	2	.
Pl III	1	.	.
Cn III	3	1	.
MI	3	4	.
Gu II	1	.	.
Gu II	1	3	3
Bk	3	3	.
Ma II	2	3	.
Ma I	1	2	1
Kg	1	1	.
B F I	1	5	2
B F II	2	1	.
B F II	1	.	4
B F II	1	.	4
E 4	2	5	.
My I	1	4	.
My II	3	3	.
My II	1	8	2
My II	1	.	.
My III	1	3	1
Rn II	1	2	.
Rn II	1	6	4
Mi II	1	6	.
Br II	1	1	.
Ot I	1	1	1
Ot II	1	4	.
De II	3	3	4
Ds III	1	2	.
Ds III	1	1	1
Ds IV	1	3	1
Se III	2	.	1
Mg I	2	3	1
Mg II	2	3	1
Mg II	1	4	.
Kg II	2	.	.
Wa I	1	7	.
Wa II	1	2	.
Wa III	1	2	.
Wa I	2	5	.
Wa II	2	.	.

V. 1 x 2.

Case	E F I	N	X
Ty IV	..	4	.
Gu	..	4	.
Mi I	..	8	2
Mg II	..	3	.
Sa	..	3	.
Total	..	22	2

Expected 0%
Observed 0%

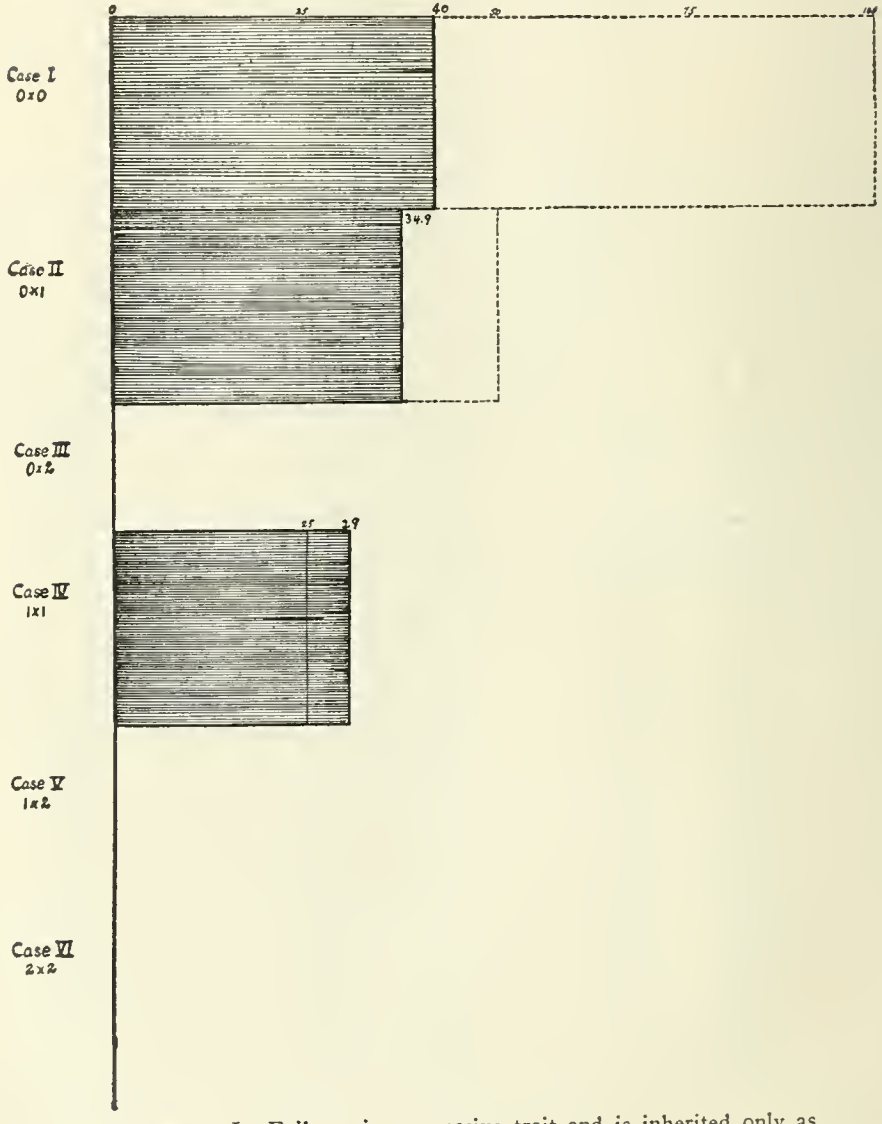
VI. 2 x 2.

IV. 1 x 1.—Con.

Case	E F I	N	X
Sg II	1	5	.
Sy	2	.	.
Br I	2	4	6
Ln	2	4	14
Gn I	8	3	8
Gn III	1	2	1
Gn II	1	2	1
Gn III	1	2	3
Gn III	1	2	.
Gn II	1	1	2
Gn III	1	.	.
Hd I	1	3	.
Fw II	1	5	1
Mx II	1	7	.
Be I	1	4	.
Be II	1	5	.
Ck I	1	3	1
Ck II	1	4	1
Tw I	1	1	2
Tw II	1	2	6
Lj	1	3	.
Bh	2	2	3
Or	1	5	.
Sn	3	4	.
Hn	2	4	.
Pk	2	1	.
M E	1	3	.
Dm I	1	4	.
Dm II	2	4	.
Dm II	1	3	1
C B II	1	1	1
C B II	1	5	5
Kt I	2	2	.
Aw I	1	7	.
P K	1	3	5
Ws II	1	5	1
Ws I	1	10	3
Sa II	1	1	4
Wr I	1	5	1
W	1	2	.
We I	1	4	.
We II	1	2	3
Gt III	1	3	.
Gt I	1	2	4
Rh II	1	10	.
Wn II	2	1	.
Wn IV	2	6	.
Total	145	300	142

Expected 25%
Observed 32.6%

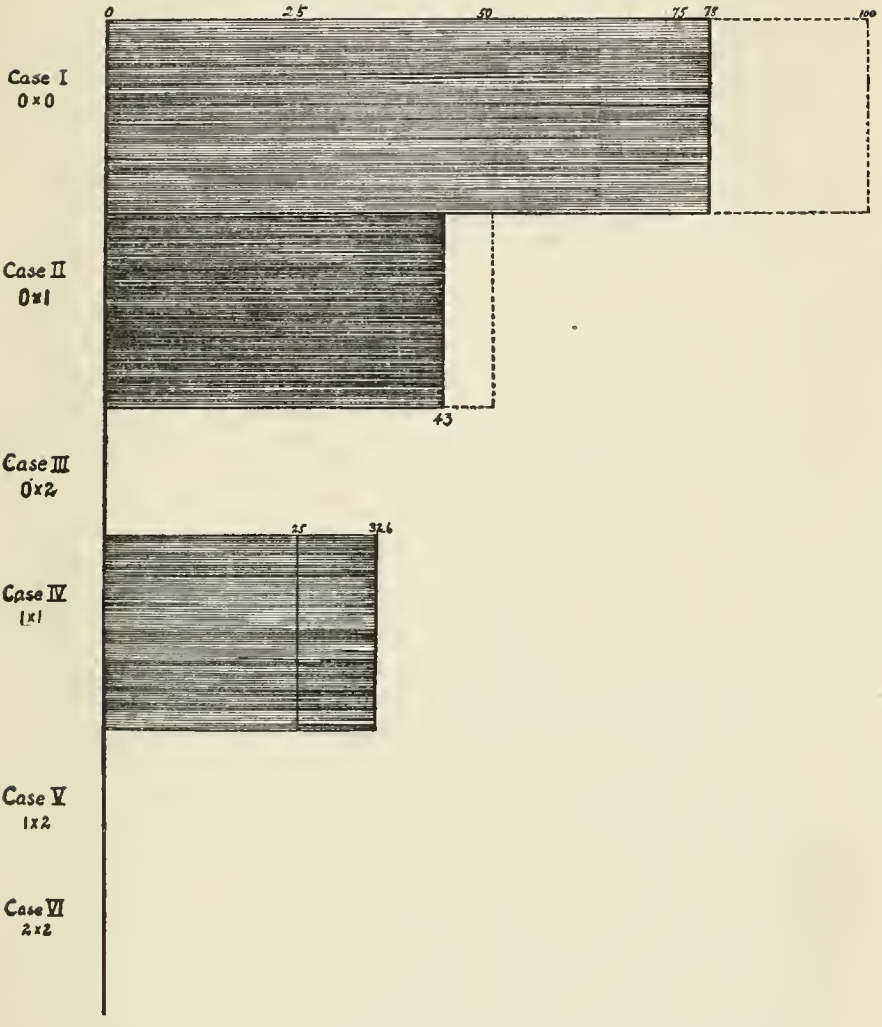
Case I, 0 x 0, under this hypothesis gives us 78 per cent affected of the expected 100 per cent.



HYPOTHESIS I. Epilepsy is a recessive trait and is inherited only as epilepsy.

Case II, 0 x 1, shows 43 per cent affected instead of the expected 50 per cent.

In Case III, 0 x 2, there is a perfect fitting as in hypothesis I.



Hypothesis II. Epilepsy is the result of a defect that is inherited as a recessive trait, which may also appear in the form of feeble-mindedness or insanity.

In Case IV, 1 x 1, instead of the expected 25 per cent, there are 32.6 per cent affected.

Case V, 1 x 2, shows a perfect fitting.

For Case VI, 2 x 2, no cases have been recorded as in Hypothesis I.

In comparing the expectations with the observations (shaded parts of the graphs) in these two hypotheses it must be borne in mind that Cases III, V and VI have very little significance, as the cases are made to fit arbitrarily. Cases I and IV are the most significant. Case I should be the test case for the hypothesis, as the pure recessive should produce only recessive. Here that case is rendered of little value in Hypothesis I by the fact that so few families come under that heading. By the law of chances the larger the number of cases the more probabilities there are of a correct proportion. As the larger number of cases, in each hypothesis, falls under Case IV, that case should have equal weight in each hypothesis. Hypothesis I gives 29 per cent to the expected 25 per cent, Hypothesis II, 32.6 per cent. Case II, 0 x 1, gives a better fitting for Hypothesis II. As a whole Hypothesis II gives a better fitting, but disregarding Case I, which is of little value on account of the small number of cases, Hypothesis I is slightly better. The similarity in the results of testing the two hypotheses is to be expected rather than not, because the two hypotheses do not oppose each other, Hypothesis II including Hypothesis I. A study of individual families shows defects other than epilepsy, contributing to the inheritance of epilepsy so frequently that with this fact in mind it hardly seems justifiable to assume that Hypothesis I is entirely correct. There is greater evidence from the actual pedigrees that Hypothesis II approaches more nearly the truth. This hypothesis, however, is extremely broad for a working basis.

It is reasonably sure that epilepsy is due to some nervous defect. Careful search shows a defect on each side of the family in such a large majority of cases that one is led to seek an explanation in each case where such defect is not found. One explanation may be that the pedigree has not been extended far enough to reveal the defect in the germ-plasm, since the defect may remain hidden for generations under favorable conditions. (See Chart III.) Another possibility is that a defect on one side of the family combined with lack of constitutional vigor on the part of the indi-

vidual, or a severe strain, such as a severe illness may bring out a defect that would otherwise have remained hidden. (See Chart IV.) The nervous defects found in the ancestry of the patients include epilepsy, insanity, feeble-mindedness, extreme nervousness and migraine. The last two, together with alcoholism, sexual immorality and idiosyncracies, such as very violent temper or periodical attacks of ugliness, seem to be evidences of nervous weakness rather than actual causes of the defect.

With the large number of cases available and the short time that has thus far been devoted to the field work there has been a certain selection of cases. The object, thus far, has been to dis-

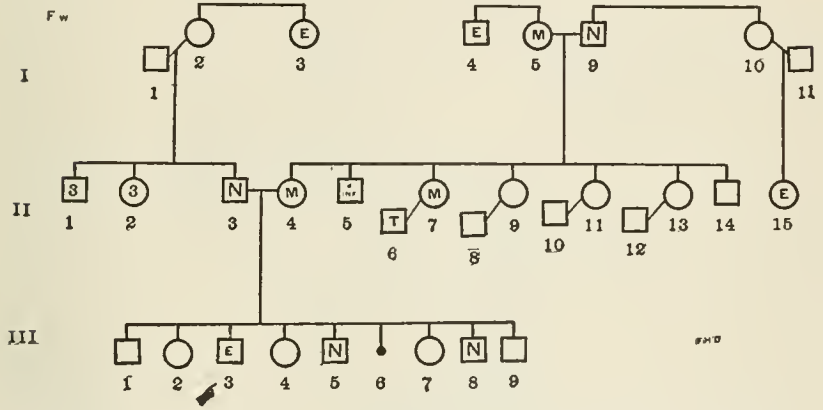


CHART III. Fw. This chart shows epilepsy on both sides of the family but not in the direct line of descent, illustrating how a defect may exist in the germ-plasm, but remain hidden until favorable conditions for its reappearance occur. This chart also shows the importance of complete and well extended pedigrees, for in this case the defect appears in the fraternities of the grandparents. I, 2, II, 3, and II, 4 are normal individuals carrying the possibility of transmitting the defect. It is not clear whether I, 5 or I, 9 is the simplex individual in that mating, possibly both are.

cover how defects have appeared in a family, rather than to discover if every case, or what proportion of cases, shows heredity. In some cases where the hospital records have been entirely negative in regard to heredity, visits to the family and to the family physician have shown a striking history of heredity in the family. Such occurrences lead one to believe that a much larger proportion of cases are hereditary than the hospital records show. The field work has revealed syphilis in the parents, where the information

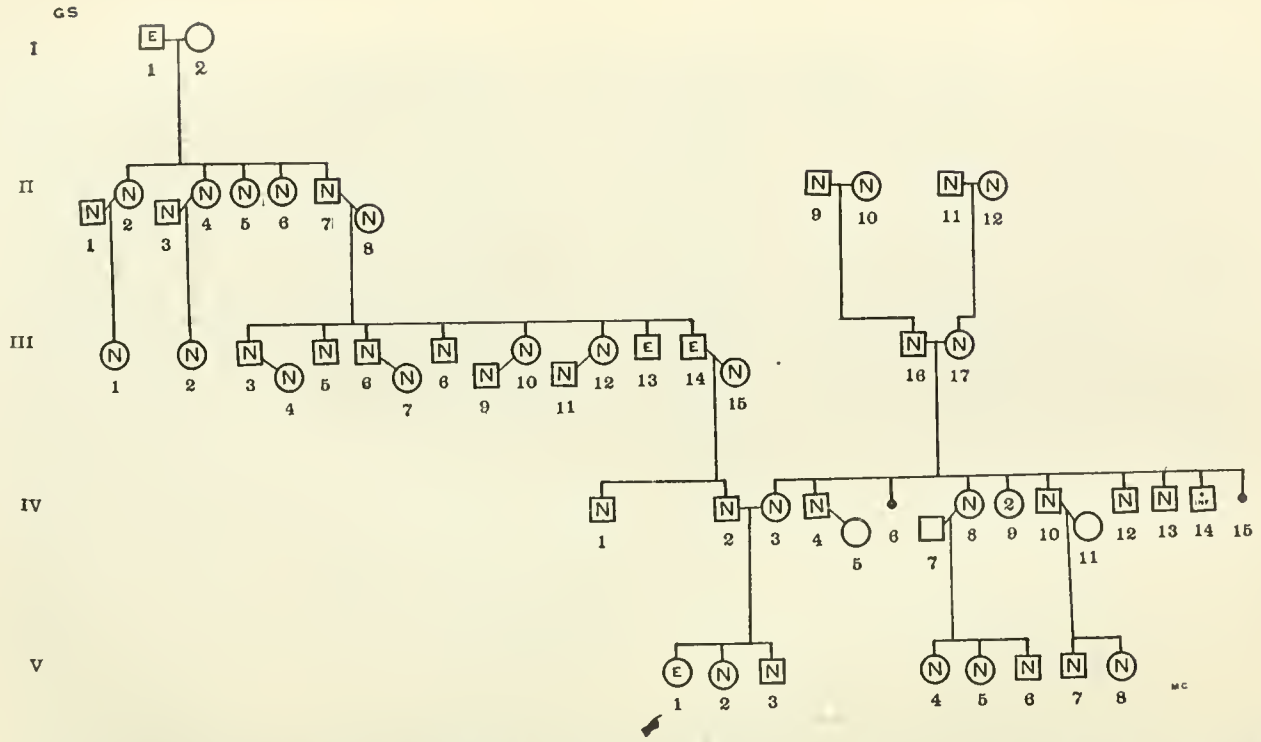


CHART IV.—G. S. This chart points to the possibility that a simplex individual may give way under a severe strain, who would not otherwise show epilepsy. I, 1 was an able and much respected man who had fits in the early part of his life. He had five children all normal. II, 7 normal, married a normal woman and had eight children, two of whom were epileptic. III, 13 is in a hospital for epileptics. No further particulars. III, 14 is a man of considerable ability. After the exposure and hardships of the Civil War he developed epilepsy to a slight degree. IV, 2 is normal, although not a man of much force. His wife is entirely healthy and normal, and of a normal family as far as could be learned. V, 1 was a bright, healthy, rather precocious child until three years of age. At that time she had a severe attack of spinal meningitis. Following that she had epilepsy in a severe form, lost her speech and became very feeble-minded. The absence of any neurotic taint on the mother's side of the family raises the question whether the child would ever have developed epilepsy if she had not had the sickness in addition to the hereditary tendency.

in the family history sheets have given no indication of it, in enough cases to lead one to suspect that if the absolute truth were known this would be a more considerable factor than it has hitherto been recognized to be. It is now a question whether congenital syphilis would manifest itself as epilepsy were there not already an hereditary tendency to it, since in some cases we find evidences both of defective heredity and of congenital syphilis. Chart Cn (V) is an example of this. The information is scanty as it had to be obtained through an interpreter. Of four children

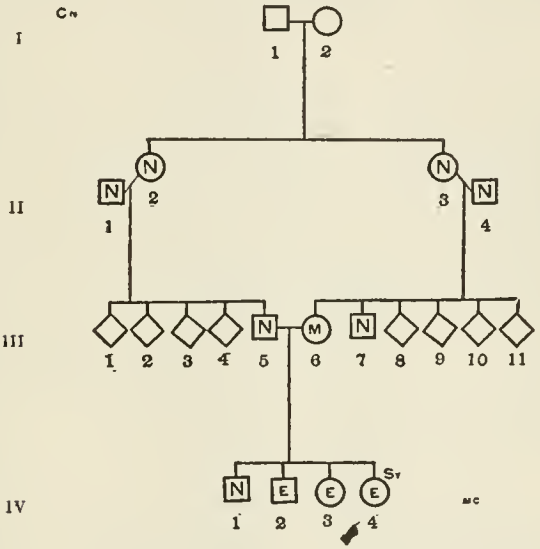


CHART V. Cn. A chart showing a family of four children, three of whom have been microcephalic and epileptic. One died at three and a half, another two and a half, the third, now four years of age, shows the marks of congenital syphilis, in having Hutchinson's teeth. The father, who died as the result of an accident, is reported to have been normal. The mother has sick headaches and fainting spells. The father and mother were first cousins.

one is normal and three have been microcephalic and epileptic. Two of them are dead but the one that is living shows the marks of syphilis by having Hutchinson's teeth. The mother is subject to sick headaches and has fainting spells. The father is believed to have been normal. The father and mother were first cousins. Other cases of epilepsy in the family are denied. The marriage of

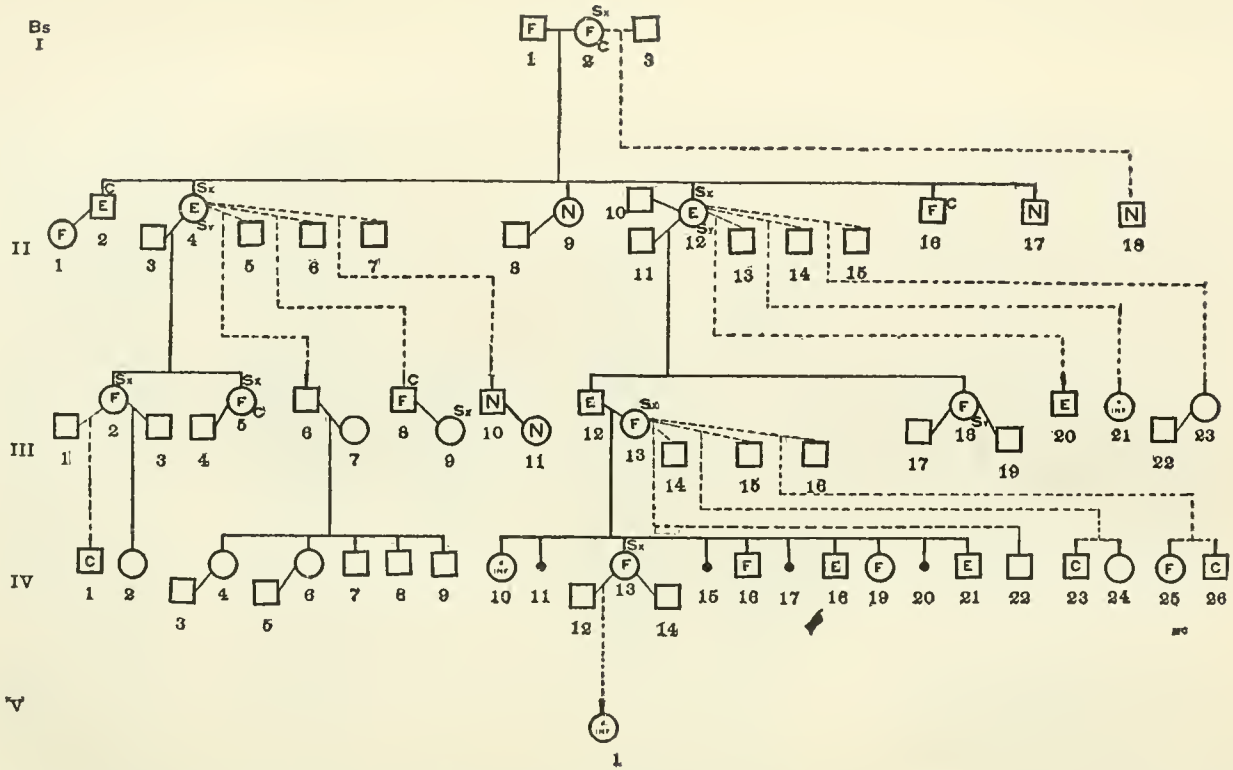


CHART VI.—Bs. This chart shows a kind of family that is not uncommon in isolated communities. This family has been supported by the same town for at least sixty years. IV, 18 is now in an asylum for the chronic insane, and IV, 19 is committed to a state industrial school. The neighbors account for the normal members of the family by the illegitimate blood in the family.

I, 1 and 2 lived in a shanty in the woods and sheltered all the tramps that came along. I, 2 encouraged her children in stealing. Both died "on the town." II, 2 spent much of his life in jail for petty thieving. He was epileptic. II, 4 was feeble-minded, epileptic, immoral, and when she died was badly eaten with syphilis. II, 12 was a notoriously bad character, badly diseased, kept a disorderly house, and gave birth to at least five children, some of whom were born in the alms-house. It is doubtful if she were ever legally married. III, 12 was epileptic and ugly. He married a feeble-minded woman who has served a term in prison, and was forced by the town authorities to marry her present husband III, 16 just before the birth of the second illegitimate child by him. She was not allowed the custody of some of her children on account of her mode of life, and she does not know the whereabouts of some of them.

first cousins naturally tends to bring out any defect that may be hidden in the germ-plasm, and the combination of poor inheritance and syphilis in this case was particularly unfortunate.

The results of the study, so far, may be summed up as follows:

1. We have no conclusive evidence that alcoholism in the parents is a cause of epilepsy in the children, although alcoholism is often associated with epilepsy. It may be regarded as a concomitant of epilepsy and an additional evidence of nervous weakness.

2. Feeble-mindedness is also associated with epilepsy and there is some evidence that it is caused by the same defect that caused the epilepsy.

3. Fitting the material to the two hypotheses, first that epilepsy is a recessive trait that is inherited only as epilepsy and second, that epilepsy, feeble-mindedness and insanity are due to the same defect which may appear in the form of any one of them, there is no striking evidence in favor of one to the exclusion of the other. The truth probably lies somewhere between the two.

4. While we are not in a position to say at present whether every case of epilepsy is inherited or to say in what proportion of cases it is inherited, we can say that in a large proportion of cases there is some nervous defect on both sides of the family. These defects may be epilepsy, feeble-mindedness, insanity, extreme nervousness, migraine, alcoholism, sexual immorality and lack of moral sense.

The ultimate purpose of the study of the inheritance of epilepsy is to learn what are the expectations in regard to the condition of offspring in epileptic families. These studies throw some light on the subject. We cannot hope that the malady that has baffled the best minds in the medical profession since before the time of Christ will yield up its secret for a few months of work. This method of approach to the solution of the problem seems the most hopeful one that has yet been tried. The prevention of the birth of epileptics is a far more feasible scheme, in our present state of knowledge, than the cure of those already affected. The work for the present is largely investigative and scientific investigation of necessity moves slowly. With a scientific knowledge of what may be definitely predicted if epileptics or persons of epileptic strains marry and have children, we shall be in a position to begin legislation and popular education on the subject.

A STUDY OF THE FORMS OF MENTAL DISEASE IN CASES SHOWING NO GROSS LESIONS IN THE BRAIN AT AUTOPSY.*

By C. G. McGAFFIN, Ph. B., M. D.,
Pathologist and Assistant Physician Taunton, Mass., State Hospital.

Pathological studies most often arise from those cases that show marked lesions. In psychiatric pathology those brains have been particularly worked over in which some severe lesion in meninges or encephalon was the prominent factor.

This study proposes an attempt to classify those cases in which at autopsy no gross lesion was demonstrated, and the writer of the autopsy report saw nothing worthy of note, or states in so many words, "nothing pathological noted in the gross."

Among the 450 autopsies at the Taunton State Hospital there were found to be 70 such cases; 15.5 per cent then showed normal-looking brains. Of these 40 were females and 30 males.

Of the females 13 cases showed some thickening of the basal vessels, but in only two cases was it spoken of as "marked." In 13 cases, also among the females, congestion of the pia mater was noted; in three cases there was an inflammatory exudate and in only one case any thickening of the pia. In 50 per cent of the female cases the dura was adherent to a greater or lesser degree, but the large percentage of this group was "but slightly adherent." In five cases there was noticeable thickening.

Among the 30 males, there was some thickening of the basal vessels in seven cases and in only two was the condition severe, and one of these showed calcification. In 10 cases the dura was noted to be adherent and in three cases thickened. In 14 cases the pia was the seat of an inflammatory process with congestion and exudation.

However, in the whole series of 70 cases, there was no evidence of any irregularity in surface pattern, diffuse or focal atrophy, cysts, pigmentation,, sclerotic or other foci. The ventricles were smooth and the cerebellum not affected.

The diagnostic classification of these 70 cases is interesting. They have been separated into groups, and in this arrangement,

* Read at the sixty-eighth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., May 28-31, 1912.

paranoia and paranoid condition going into the dementia præcox group and involution melancholia into the manic-depressive. They are as follows:

Dementia Præcox group	21
Manic-depressive group	18
Delirium group	13
Senile group	8
Imbecile group	4
Alcoholic group	3
Miscellaneous group	3
	70

From this it will be seen that 55 per cent of the study is taken up with dementia præcox and manic-depressive insanity, and we stop to consider the pathological unknown. There is nothing in the gross to help us and when microscopy is to be relied upon, there is but little more. These small groups count for nothing in a general way. However, in a study of 17 out of the 21 cases of dementia præcox, satellite cells were found in 60 per cent of the cases close to the large pyramidal cells. In 90 per cent of the cases there was some evidence of acute cell change, such as axonal reaction, disintegration of the Nissl granules and thickening of the nuclear capsule. In a large percentage of these cases the yellow pigment was present to excess, and in some cases the pigment seemed to have dislodged the nucleus altogether and in its place a spot of bright yellow staining material in the Nissl sections.

The microscopic study of the manic-depressive cases showed a small percentage with acute cell change, but for the most part the picture was negative except for a satellitosis similar to that found among the dementia præcox group.

The delirium group makes up 18 per cent of the whole number in the series. The etiology is the important point in these cases. In every instance it is traceable to some physical condition. In two there was pneumonia; in three pulmonary tuberculosis; in eight some grade of acute nephritis. In every case the microscopic diagnosis confirmed the anatomical given above. Death came early in these individuals after commitment, showing the infection to be extremely virulent. The average time in the hospital was 9 9/13 days and of the group only three were resident over 10

days. Prognosis is poor in delirium cases and the etiology should be carefully studied when possible to give greater certainty as to therapeusis.

The cases diagnosed as senile dementia were eight in number, five females and three males. Six of these cases were only resident two months and under, the shortest period being three days. The average time of duration was 20 days. In some of these cases physical causes would seem to be the etiological factor in the final act of commitment. Too often cases over 60 years have been called senile dementia, when there may have been some basis, perchance psychogenetic or physical other than senile changes, for an acute attack arising after the fifth decade.

The following are abstracts from the more typical cases:

11.21 (19645), female, 69, admitted May 8, 1911, was said to be depressed and suicidal; memory impaired; family history negative. Injury to head by falling about a year ago; began to be irritable immediately following this and continued to grow worse. On admission, temperature 100.4°, numerous bruises on body, many of which were septic; pain complained of over epigastrium. Two days later respirations 45; pulse 120, small and thready; vomited quantities of bile stained fluid material. No conversation could be carried on with her as she was constantly in a stuporous condition. Death, May 12, 1911; cause, acute gastritis and bronchopneumonia. Autopsy showed an acute inflammation of mucous lining of stomach, bronchopneumonia, serious pericarditis, some arteriosclerosis.

In this case we find an acute brain disturbance following the injury to the head, with restlessness and irritability. Later septicæmia with pneumonic symptoms.

11.3 (19514), male, 61, admitted January 16, 1911. Onset was said to be gradual; was confused and restless in general hospital where he was before admission to Taunton State Hospital.

Abstract of General Hospital Records.

"Married, born in England, loom fixer by occupation, admitted to this hospital Jan. 7, 1911.

"*Past History.*—Had bronchitis a year ago.

"*Present History.*—Had shortness of breath and unable to work.

"*Physical Examination.*—Sibilant and sonorous rales heard distinctly over bronchi; coughs a little and has slight temperature; heart shows mitral leak, also enlarged; apex beat to left of nipple line.

"*Urine.*—Normal.

"Developed mental symptoms and transferred to Taunton State Hospital Jan. 16, 1911.

"*Condition on Discharge.*—Unchanged."

On admission temperature 101.2°; area of consolidation in left lung; urine albuminous. Mentally was somewhat confused, but answered most questions relevantly. No active hallucinations or delusions elicited. Remained quiet, temperature fluctuating between 99° and 101°. Death, January 25, 1911. Diagnosis, lobar pneumonia. Autopsy showed double lobar pneumonia, much enlarged spleen, acute parenchymatous nephritis.

In this case we have a male, aged 61, some memory defect and mental confusion, but no restlessness, hallucinations or delusions. Admitted from a general hospital, with temperature 101°, and beginning symptoms of lung and kidney involvement.

08.9 (18187), female, 70, admitted March 31, 1908. Present attack said to have begun March 1, 1908. At that time was bedridden, much œdema of legs and general anasarca; urine albuminous. Developed hallucinations and was restless and irritable. History shows no real evidence of mental trouble existing before date stated above. Physical examination revealed œdema, general anasarca, albuminous urine, with numerous casts, dyspnœa, irregular, rapid heart. Mentally was entirely oriented, memory not much impaired, auditory hallucinations. Death, June 1, 1908. Cause, organic heart disease. Autopsy showed hypertrophied heart, general anasarca, acute parenchymatous nephritis.

In this case we have a female, aged 70, onset sudden, hallucinations of hearing most important symptoms. Physical signs of heart and kidney lesion marked.

In many of such cases, then, are we not dealing with some acute psychosis arising upon some physical basis rather than with senile dementia? Too often are symptoms taken for granted as belonging to some definite form of mental disease when they are but a part of the physical picture presented on the mental side, and would clear up with the alleviation of the clinical symptoms.

The other groups contain too small a number of cases for interesting and important study, and the diagnoses are not so much in doubt. Needless to say, errors in diagnosis will be always with us, and so will the prognosis suffer. But the pendulum can swing too much one way as the other, and needless stress be laid upon the correct diagnosis of a case. Etiology and therapeutics should be the subject of more symposiums. The environment of the patient before commitment, the physical condition, his mode of life, together with his previous mental make-up—a careful study of these points will assist much in the proper therapeusis of the individual case.

TREATMENT OF THE INSANE IN BRITISH COLUMBIA.*

By C. E. DOHERTY, M. D., C. M.,

Medical Superintendent, Public Hospital for the Insane, New Westminster, B. C.

In the selection of the subject of this paper, which cannot contain any interesting features save that of an illustration of the remarkable increase of population in Western Canada during the past few years, together with the rapid rise of its number of insane, I must lay part blame upon my Canadian friend Dr. Burgess, for when at a loss to know just what subject to select Dr. Burgess hinted that a history of the treatment of the insane in British Columbia might be acceptable. Hence my decision, and I now crave the indulgence of a few minutes of your time while I review this.

The earliest record of an insane person in British Columbia dates back to 1850, but during the rush to the Cariboo gold-fields in the years 1858 and 1859 many new-comers broke down under the strain and hardships endured, and had to be taken care of by the authorities. The nearest asylum at this time was in the State of California, consequently those cases which were at all violent or turbulent, and unable to make this long journey, were sent to the " lock-up " at Victoria for safe-keeping.

When female patients began to appear, however, it became evident that the gaol, which was not at all large, could not accommodate all. In 1872 the old Royal Hospital at Victoria was remodelled and converted into the " Provincial Asylum," under the management of the Provincial Secretary's Department, as it still remains to-day.

Prior to this time there had been no provincial act dealing with asylums or the insane, so in 1873 the " Insane Asylums Act " was passed.

At the end of the year 1876 the building was full to overflowing and could accommodate no more, and as it was deemed advisable not to extend the institution on that site the then existing govern-

* Read at the sixty-eighth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., May 28-31, 1912.

ment decided to remove to New Westminster and locate upon a government reserve.

This institution, at first accommodating only 38 patients, rapidly grew, until in 1908 we were treating 509 patients of both sexes. At this time every indication pointed to the fact that the property at New Westminster, 30 acres in all, was too small for any further extension or enlargement of the old hospital; accordingly it was decided to commence work on a property, consisting of a thousand acres situated at Coquitlam, which had been acquired by the government some few years previously, but which still remained a virgin forest with considerable low swamp land. Tents were secured and some twenty patients sent out to clear land for temporary buildings, which were completed before the fall of the same year.

In the spring of the following year we started to clear land in earnest; over forty patients, many of whom were excellent axemen, with the assistance of two donkey engines, also manned, with the exception of engineers, by patients, managed to clear up ready for the plough some eighty acres. During the winter of 1909 it was decided to push along the work of clearing as fast as possible. The temporary quarters were enlarged until we could accommodate some 65 of our best working patients; three more donkey engines were secured and in the spring work again commenced. The manner in which our patients took hold of this work surprised me, one patient alone during one month handling 17 tons of blasting powder.

By the fall of 1910 some 500 acres were cleared and all lowland dyked and completely underdrained.

In the meantime the provincial government had called for plans for a complete new institution to accommodate 1800 patients, and had opened a competition in which any and all architects were invited to enter, prizes being offered for the plans obtaining first, second and third place in the competition. Franklin B. Ware, state architect of New York, was appointed adjudicator and the plan awarded first prize by him showed a design of an institution arranged in the corridor-pavilion style, consisting of a central administration unit, behind which and connected by corridors showed a steward's office and stores with service quarters above, the kitchen, bakery, etc., being on the third floor.

The other buildings consist of infirmary, acute and chronic buildings on either side of the administration building in a horse-shoe arrangement, while the convalescent homes, which are completely without the corridor arrangement, show at some distance in front on either side of the administration building; the isolation hospital, the mortuary and laboratory appear in rear on one side, with shops and amusement hall on the other.

All the buildings are absolutely fire-proof, of reenforced concrete throughout and faced with red brick, and now, when about completed, present a very fine appearance.

In connection with our new hospital, which when completed will cost from $1,600,000 to $2,000,000, there are two or three points concerning which I would like to have an expression of opinion, and it was to obtain this from a body of such experienced men as are here to-day that I really permitted myself to become a burden upon this meeting.

Three points which, along with many other features, I insisted upon securing for the hospital, and upon which I laid the most stress, were provisions in construction, first, for the isolation and fresh-air treatment of all cases of acute insanity or acute mania; secondly, a provision for the handling of at least 90 per cent of our chronic insane in congregate dormitories; thirdly, provision of proper buildings for manual arts and crafts training as well as for amusement.

We all know that acute insanity, aside probably from that which accompanies general paralysis, tends strongly towards recovery, and the indications for treatment are, therefore, to assist if possible and not to retard nature in her restorative efforts. A matter which has always weighed heavily upon my conscience, but which I must admit in our old building I was completely unable to avoid, and I have no doubt at all that most other superintendents have had the same experience, is that no matter how well an admission hospital may be equipped with well trained and observant nurses, diet kitchen, hydrotherapeutic apparatus, clinical laboratories, etc., unless special proper provision has been made in construction of your hospital, the acute patient, unless he is to be stupefied with drugs, becomes a disturbing element to all other and less acute new arrivals, and notwithstanding all prejudices to the contrary, in most instances you and I have had to fall back on drugs to the detriment of our cases.

Our hospital, in its acute buildings, is equipped in such a way that each acute case of the active variety can be treated as individually as if he were the only patient in the hospital, while at the same time every provision is made for an abundant supply of fresh air and maximum sunlight.

We all know how important fresh air is to persons suffering with tuberculosis, while most of us, where it has been given a fair trial, cannot deny that an abundance of fresh air is just as important in the treatment of the exhausting processes of the active variety of acute insanity, and certainly it is sometimes if not generally found that, at the expiration of a given period, say two weeks, the patient's physical condition will be far better if sedative drugs have been withheld than if the physiological effects of these have been maintained.

Our acute buildings contain six large apartments arranged en suite, three in each building, each suite containing a room 15 x 20, with toilet, continuous bath, pack equipment, two attendants' quarters and a small diet kitchen; the walls of each apartment are provided with extremely thick deadened partitions, triple doors and windows, and are also provided with the very best system of forced ventilation. Each apartment may be opened out on to separate compartment of a solarium when the patient's acute symptoms begin to subside and before he is passed along to the regular admission ward.

From my experience I would say that six such apartments are quite ample for an institution of 1800, or where the yearly admission is about 350.

I cannot but believe that fresh-air treatment of acute insanity is a cardinal point and also that while most of these cases are so noisy and so unmanageable that it is impracticable to keep them out of doors, the artificial ventilation, properly carried out, is a splendid substitute if not equally efficacious.

Now regarding congregate dormitories for the chronic insane: most of us can picture to ourselves the old single room provided with a chamber, locked when the patient goes to bed, and visited by the nightwatch hourly or less frequently, and while we will all admit that there is a certain percentage of these cases unfit for dormitories, the strongest opponents of this system will agree, I think, that the percentage is not more than from six to ten per

cent of the chronic population of any insane hospital. These, of course, we will continue to treat in single rooms so arranged in an octagonal manner that even here it will be hardly necessary to keep the doors closed.

Our congregate dormitories are so arranged that each holds 50 patients, and that two dormitories can at the same time be under the constant supervision of one night nurse who never leaves his post unless relieved. These dormitories are all artificially ventilated so that no widnows are open; patients have access to the toilets and fresh water throughout the night; no bedchambers are permitted and the result of such an arrangement is not only an improvement in the general atmosphere of the place and the night discipline of such patients but also a reduction to a minimum of the many dangers which we only too well know exist in the single room or smaller dormitory periodically visited.

The third feature, and the one which caused me the greatest thought and greatest difficulty in coming to a conclusion, was that in connection with proper shops, gymnasium and recreation hall. In my travels and visits to other institutions I never failed to notice, in many instances, the very inadequate provision in the buildings for manual arts and crafts training. It has always appeared to me rather peculiar that, in some institutions, even where large sums of money have been spent on the hospitals proper, to see patients engaged at the different trades in quarters so badly ventilated and otherwise so insanitary that I myself felt quite uncomfortable from just passing through. Surely it is a matter of economy for us to supply this class of the best producing patients with every means of proper hygiene just as well during working hours as it is at any other time.

Our shops buildings are fire-proof throughout, all stories having fifteen feet head space, are well lighted on two sides, and are provided with the same artificial ventilation as the hospital proper.

Our amusement or recreation hall is large enough to accommodate and seat one-half the population of the hospital or 900. The gymnasium is large and commodious and when fully equipped should prove a source of pleasure not only to the patients but also to our employees.

Before closing this paper I would like to call your attention to the fact that, in British Columbia, so far at least, politics have never

entered in any shape or form into the management of the hospital; on the other hand our governments have always shown the strongest disposition to keep this institution without the pale, and have to a remarkable extent carried out suggestions as made by its medical head. At the present time we are blessed in the fact that the executive minister, under whose particular head the management of this institution comes, is a medical man, the Honorable Dr. H. E. Young, who takes an immense interest in the welfare and treatment of the insane of British Columbia.

If any of you come to British Columbia and pay us a visit we will always be glad to see you and show you around our institution, and should you find anything lacking you will know this to be the result of oversights by myself and predecessors.

INSANITY AMONG THE INDIANS.*

By H. R. HUMMER, M. D., Canton, South Dakota.

At the suggestion of Dr. Henry M. Hurd of Baltimore, Maryland, I shall endeavor to call your attention, through a few short remarks, to the subject of "Insanity Among the Indians," and what is being accomplished for the welfare of this class of unfortunates at the Asylum for Insane Indians at Canton, S. D.

No attempt has been made to prepare a scientific paper, all the remarks herein being of a general nature.

Incidence.—In an Indian population of more than 300,000 in the United States there were at the close of June, 1911, 58 insane Indians in this asylum, 52 applications on file, necessarily unacted upon by reason of our limited capacity, 20 odd cases in various state institutions and more than 20 being cared for by relatives or friends of the more enlightened class. This gives a total of upwards of 150 known cases of insanity, a ratio of 1 in 2000. As a matter of fact, judging from the reports of employes and sane Indians of several of the 140 schools and reservations throughout the United States, there must be at least double this number, or a ratio of 1 in 1000 of the population. For instance, I have been informed that there are from 15 to 20 epileptics on the Flathead Reservation in Montana, the majority of whom present symptoms of mental alienation. Possibly this may be accounted for by the fact that this tribe bind the heads of the infants to make them flat, from which custom they receive their name. Scarcely an employe or an enlightened Indian of any of the reservations visits this asylum who does not inform me that he knows of from one to five cases on that reservation who should properly be in the asylum. Of course, it must be remembered that this is the judgment of laymen, but there must be a good bit of foundation in fact behind this judgment. These cases are not brought to the attention of the various superintendents or physicians, owing to the reticence and superstitions of the Indians, and it is not surprising that the superintendents and physicians do not find them when one considers the enormous territory under their juris-

* Read at the sixty-eighth annual meeting of the American Medico-Psychological Association, Atlantic City, N. J., May 28-31, 1912.

diction. Another factor of some importance is the faith of the older full-bloods in their own medicine-men, who treat these cases by incantations, herbs and other means with which I am not familiar. Recently, competency commissions have been appointed by the Indian Office, with a view to visiting the various schools and reservations to determine from an examination of the Indians which ones are competent to receive their lands and become self-supporting citizens. I have read of the findings of one of these commissions, and out of 700 Indians on one particular reservation 350 were found to be competent, 250 incompetent, and 100 were undecided at that time. I cannot convince myself that all of these 250 incompetents are so from ignorance or lack of education alone, but feel forced to believe that a certain percentage are incompetent from idiocy, imbecility, constitutional inferiority, epileptic psychoses, organic brain disease, senile dementia and possibly other forms of mental disease, unrecognized by a commission composed of laymen, in most instances. Judging from some of the medical certificates received it would not be surprising that they would be unrecognized by some of the physicians also. This may be comprehended when one considers that some of these physicians see not more than a dozen cases of insanity in a life time. It is, of course, impossible to foretell the results of these commissions at other schools and agencies, but it is fair to assume that some cases will be found at each. If this be the case, then our estimate of 1 in 1000 may prove too low.

This leads us to the consideration of the various forms of insanity met with in the Indian race. Of the 126 cases admitted from the opening of the asylum to June 30, 1911, the diagnoses appearing in the records show the following types: acute melancholia, chronic melancholia, chronic mania, hypochondriacal melancholia, delusional melancholia, periodic mania, acute mania, circular insanity, climacteric insanity, manic-depressive insanity, congenital epileptic idiocy, chronic epileptic dementia, epilepsy, grand mal, epilepsy, petit mal, syphilitic epilepsy, epilepsy with hemiplegia, cortical epilepsy, traumatic epileptic dementia, epileptic imbecility, epileptic psychoses, dementing, amentia, imbecility, high-grade, congenital imbecility, alcoholic dementia, dypsomania, toxic insanity, acute alcoholic insanity, chronic alcoholic insanity, intoxication psychoses, alcoholic, chronic dementia, terminal de-

mentia, dementia præcox, hysteric angina pectoris, infantile spastic diplegia, spastic spinal paralysis, kleptomania, nymphomania, mutism, sexual neurasthenia, paresis, galloping paresis and syphilitic dementia. This classification (?) has been revised as accurately as the lack of records would permit, so that at the end of the last fiscal year the records carried nine types, viz., dementia præcox, 15; the epilepsies, 14; congenital imbecility, 8; intoxication psychoses, 6; manic-depressive insanity, 5; senile psychoses, 6; arterio-sclerotic dementia, 2; hysteria, 1; and paranoia, 1. While the records are far from complete or satisfactory, yet the data we have seem to warrant the above-mentioned diagnoses.

The following table will give an idea of the geographical distribution of insanity among the Indians. The 126 admissions were from Arizona, 12; California, 1; North Dakota, 7; South Dakota, 22; District of Columbia, 1; Idaho, 3; Kansas, 3; Minnesota, 16; Montana, 7; Nebraska, 3; Nevada, 2; New Mexico, 8; Oklahoma, 27; Oregon, 3; Washington, 1; Wisconsin, 8; Wyoming, 2.

Of the tribes represented, the Sioux have contributed the largest number, 25, followed closely by the Chippewas with 19. Then in order, we have the Navajo, 8; Apache and Cherokee, 5 each; Menominee, Osage and Piute, 4 each; Bannock, Blackfeet, Choctaw, Creek and Winnebago, 3 each; Arickaree, Caddo, Chickasaw, Flathead, Pima, Pueblo and Seminole, 2 each; and 1 each of the following, Arapaho, Cheyenne, Cree, Crow, Gros Ventres, Hopi, Kickapoo, Klamath, Mesa Grande, Modoc, Moqui, Papago, Pawnee, Piegan, Potawatomi, Puyallup, Quapaw, Sac and Fox, Shawnee, Shoshone, Umatilla, Wyandotte and unknown. It should be remembered that the Sioux and Chippewas are large tribes in the immediate vicinity.

Causation.—The records show 13 cases due to congenital defect, 8 males and 5 females, four of these having epilepsy as a leading causative factor; followed closely by epilepsy with 11 cases, 6 females and 5 males; third in order appears alcohol, which is charged with producing insanity in 6 cases, 4 men and 2 women; senility ranks fourth, being responsible for 5 cases, 3 females and 2 males; arterio-sclerosis is causative in 2 cases, 1 male and 1 female; the puerperium is charged with one and domestic difficulties another. This leaves 16 cases with an unknown

etiological factor. To account for the insanity in these cases we find heredity, head-injury, constitutional inferiority, prison-life, domestic troubles, menstrual disorders, the climacterium, worry, grief, over-eating, over-medication, fright, exposure, frequent pregnancies and consanguinity in the parents, given as possible factors in the production of the alienation, but in none of these cases is the history sufficiently clear to warrant removing them from the class of unknown etiology. As to heredity, we have one patient, classed as a congenital imbecile, who is the offspring of parents who were brother and sister; a case of manic-depressive insanity, covering a period of 45 years, showing "insanity in father's family" and "peculiarities, intemperance and melancholy in mother's family"; one case of dementia præcox shows a maternal cousin epileptic; a congenital imbecile has the history of a "foolish father"; another is the offspring of a consumptive mother; an epileptic imbecile springs from a syphilitic mother; a precocious dement had "a brother, aunt and an uncle mentally unbalanced"; and a manic-depressive case shows an "eccentric father and an insane grandfather," whether maternal or paternal is unknown. I believe it is clear from the preceding that the histories accompanying the patients are fragmentary, in many instances totally lacking, and in others unreliable. This may be partially explained by the fact that, owing to his superstitions, the Red Man is extremely reticent concerning insanity in his antecedents and relatives, these superstitions being closely akin to the fear of witchcraft, sorcery, etc. There is a case of arteriosclerotic dementia in this asylum, who was absolutely neglected by her relatives following an apoplectic stroke, because another relative, dying of tuberculosis, claimed to have a vision of this woman, just before her death. According to the Indian conception, this vision proved conclusively that our patient was possessed of devils and had poisoned the relative. She would certainly have died from neglect and exposure had it not been for the kindness of a more enlightened neighbor, who took upon herself the care of this unfortunate, her relatives refusing absolutely to go near her. Mr. Gifford, formerly superintendent, in his annual report for 1902, makes the statement that "the condition of the larger number of these patients, mentally and physically, when received into the asylum, indicates extreme neglect in their former care and treat-

ment. Some of these unfortunate people have no relatives or friends who are responsible, either legally or morally, for their care and support and some Indians are quite superstitious regarding insanity and will have nothing to do with an insane relative or friend, except to get rid of him in the quickest and easiest manner possible." My short experience here convinces me that this statement is not at all exaggerated, except in a few cases, whose relatives have attended the Indian schools sufficiently long to overcome these superstitions. In these cases there is practically no difference between the care given the afflicted Indian and that given his white brethren. It would appear that domestic difficulty is an especially prominent factor in the causation of mental disease in the Indian race. From what I can ascertain, the marriage vows, generally speaking, are not held inviolable, with the result that it is not unusual to hear of children the offspring of father and daughter, brother and sister, and close relations. This may be partially explained by their mode of living, in many instances, all the members of a family living in one tepee, hogan or room, which, when taken with the voracious appetites and indolence of the males, causes the sexual function, rather than muscular action, to assume the position of safety-valve for the system. I am forced to the conclusion that the amount of restraint placed upon the sexual desire is very much less than in the white race. This may be partly due to their ruralization. In this asylum masturbation is practiced to a large extent, in many instances openly, and in practically all without sense of shame. One case of sodomy has been brought to my attention.

So far as sex is concerned, out of 126 cases admitted, 72 were males, a percentage of 57 plus, and 54 females, a percentage of 42 plus.

The relation of the degree of Indian blood as a causative factor may be shown by the fact that out of 126 admissions, 84 were full-bloods, 38 half-bloods, 3 less than half and 1 unknown, giving a percentage of 66⅔ for the full-bloods.

The relation of age as a causative factor is shown by the following table based on 126 admissions. Two in the first decade; 18 in the second; 28 in the third; 36 in the fourth; 15 in the fifth; 10 in the sixth; 7 in the seventh; 7 in the eighth and 3 beyond the eighth decade. I have an old lady of 102 years.

The relation of the marital condition follows: Of the 58 in the asylum June 30, 1911, 24 were single, 19 married, 11 widowed, 1 divorced and 3 unknown. The lack of records makes it impossible to give these data for all admissions.

Symptomatology.—A few remarks regarding the symptomatology. The manic-depressives present nothing materially different from the whites afflicted with the same disease, as will be recognized from the following abstracts:

Case 1.—Female, aged 63 at present. Four attacks of maniacal excitement, followed in each instance by an approximately normal condition. At present presents evidences of senility from physical and mental standpoints.

Case 2.—Four attacks of mixed type. At present presents restlessness, psychomotor hyper-activity, talk compulsion, lack of attention, mild distractibility, impaired critical faculties, capriciousness, impaired memory, somatopsychic ideas, *e. g.*, committed the unpardonable sin, anxiety, fear of impending death, depressing hallucinations of hearing, hypochondriasis, mild ideas of persecution and some emotional depression. Mixed type.

Case 3.—Third attack. Restless, excitable, voluble, unstable expression, lack of attention, hallucinations of hearing and sight, impaired memory, alternating with hypo-activity, diminished ideo-motor activity, emotional depression, retardation of thought. Alternating type. Condition between previous attacks unknown.

Case 4.—Previous history unreliable. Present symptoms, psychomotor hypo-activity, diminished ideo-motor activity, movements slow and sluggish, emotional depression, retardation of thought, mild fear of impending death, vague ideas of persecution, auditory hallucinations. Depressed type.

Case 5.—Proved to be one of hysteria. Discharged recovered.

I have observed no instances of imperative conceptions and the physical symptoms were inconsequential.

The epileptics here differ in no manner from the white epileptics I have seen, except that five out of the 14 have a condition of hemiplegia, three of left side and two of right, the exact relation of the epilepsy and hemiplegia being unknown at this time. One case of epilepsy is purely nocturnal and several others practically nocturnal, though they occasionally suffer a convulsion during the day. One epileptic has his convulsions serially, averaging 18 to 20 every third week and another averages 40 to 50 convulsions monthly, in spite of fairly large doses of the triple bromides.

The congenital imbeciles present nothing startling, except that all are of very low intelligence.

The only striking symptom among our alcoholic cases seems to

be the active homicidal impulses which were present in each of the six cases, one man having actually killed several persons, another shooting at some strangers passing his farm, another attempting an assault with an ax, a female threatening to kill her family by "chopping off their heads," another by assaulting those around with anything she could lay hands on, and the sixth by vicious assaults without warning at every opportunity. Otherwise, their symptoms did not differ materially from those occurring in the white alcoholics. Five of the six are dementing types and the sixth is a case of chronic alcoholic hallucinosis.

Our senile psychoses present no differences from the corresponding psychoses in the white race.

Our hebephrenics have the same eccentricities, vague suspicions, self-centering, distrustfulness, emotional outbursts of superficial character, occasional self-complacency, lack of initiative, somato-psychic delusions, hallucinations, mostly of an elementary character, apathy, silly smiles, impulsivity, irrelevant replies, negativism, stereotypies of speech and attitude, word salad and automatism. Our catatonics show alternating periods of depression and excitement, stupor, motor disturbances, mutism, negativism, stereotypies of speech and action, cerea flexibilitas, psycho-motor retardation, apathy, lack of interest, embarrassment, impulsivity, destructiveness, hallucinations, delusions and aggressiveness. Our dementia præcox, paranoid form present dementia, fixed systematized delusions of a bizarre nature, fantastic hallucinations, controlling the actions of the patients, defective memory, hypochondriacal ideas, occasional impulsive acts or mannerisms, verbigeration, and automatism.

Our true paranoiac is extremely interesting, having been abroad and demanded that the throne of Denmark be vacated in her favor, and I trust that I shall be able to make a detailed study of her case later.

In general, then, our Indians present practically the same mental symptoms as appear in corresponding forms of mental disease among the whites. They are decidedly more suspicious, at least until their confidence is gained, much more reticent and their superstitions are fully as prominent as those of the plantation darky. They are probably more destructive and decidedly filthier than the white insane. They give little trouble by their attempts to escape, there having been no escape from this insti-

tution in two and one-half years. There seems little danger of suicide, though I have one case who has made repeated abortive attempts at self-destruction, always by the hanging method.

Diagnosis.—I shall only remark that it is harder to diagnose the condition of the insane Indian because of the reasons previously mentioned, viz., his reticence, suspiciousness, superstitions, etc., and from the fact that oftentimes our only medium of conversation is the sign language, which with us is very crude.

Prognosis.—An idea of the prognosis may be obtained from the fact that out of 126 admissions there have been 41 deaths, 16 recoveries, nine improvements or unimprovements, two escapes and 58 remaining in the asylum June 30, 1911, all of whom are chronically insane.

Twenty-one deaths due to respiratory diseases, 14 tuberculosis and seven pneumonia; eight deaths due to nervous diseases, five epilepsy and three paresis; six deaths due to miscellaneous diseases, three syphilis, two senility, one mastoid disease; four deaths due to digestive diseases, two enteritis, two liver and bile ducts; one death due to circulatory disease, valvular disease, anasarca and ascites; one death due to osseous disease, tuberculosis of bones.

Treatment.—We shall dispense with the treatment in a few words. Custodial care and attention, together with what encouragement and suggestion we can give in our daily contact, regulation of hours for rest, eating, exercise and recreation, careful attention to the diet and as strict an enforcement of the laws of health and sanitation as conditions will permit, constitute the routine measures. The epileptics are given a routine treatment of the triple bromides and what other sedatives are required and indications are met as they arise. Seldom is it necessary to resort to hypnotics, although an occasional hot bath is found to be beneficial. Games of all sorts are encouraged, such as baseball, horseshoes, fishing, trapping, croquet and athletics of all sorts; also such indoor recreation as checkers, cards, dominoes, basket-work, raffia-work, bead-work and fancy sewing. Physical labor for those capable of performing it is aided and abetted to the fullest extent. Trips to town and the near-by river assist in breaking the monotony. Weekly congregations for the singing of sacred music are beneficial.

Historical.—The institution was established more than ten years ago, through the far-sightedness of certain prominent men, including Senator Pettigrew of South Dakota, who succeeded in

convincing Congress that it would be both wise and humane to establish an asylum for insane Indians, who, prior to that time, received little or no care. The institution consists of 21 buildings, only one of which is occupied by patients, located on a commanding knoll two miles east of Canton, and about one-half mile from the Big Sioux River, which at this point forms the boundary line between Iowa and South Dakota. We have about 100 acres of rich black soil, which furnishes us with an abundance of vegetables in season, all of the potatoes we use throughout the year and supports three horses and seven cows with feed and pasture. One of the most important advances made has been the discontinuance of the surface disposal of sewage, by connecting with the sewer system of Canton. Two years ago an appropriation of $25,000 was secured from Congress for the construction of a hospital building. This amount proved insufficient and $15,000 additional was secured from the present Congress. This building will care for the infirm, the tubercular (in the sun-parlors), the surgical cases and serve as isolation and reception ward for acute cases. Provision has been made for a pathological, bacteriological and chemical laboratory, in miniature, in this building, in connection with a mortuary. The basement will contain a complete hydrotherapeutic outfit.

In addition the superintendent will be furnished a detached residence during the coming summer.

We hope soon to install suitable outdoor playground apparatus, which will add materially to the mental and physical welfare of those able to use it. This apparatus will follow the school-ground type, but will be selected to fit our peculiar needs.

The time is not far distant when it will be necessary to erect one or two cottages for the epileptics and a chapel and amusement hall for the benefit of patients and employes. An employes' home is an urgent necessity.

In a short time our water supply will have to be increased and it will not be long before serious consideration will have to be given the matter of a central power and heating plant.

I hope to be able to visit a number of the different reservations with a view to studying home conditions and in time to develop an elementary text-book for use of physicians in the Indian service.

I thank you for your courtesy and attention.

OCULAR SYMPTOMS IN GENERAL PARALYSIS OF THE INSANE.*

By HOWARD T. CHILD, M. D.,
Assistant Physician, Kankakee State Hospital, Hospital, Illinois.

The frequency with which physical symptoms present themselves in cases of general paralysis is a marked characteristic of this disease.

The special organ to which this paper will refer is the eye, and since general paralysis is in every case chiefly a brain disease many interesting local symptoms are present.

The initial stages have many morbid changes to be noted. Among the first to be considered is eye movements. In the study of abnormal mental conditions additional difficulties arise from the very object of investigation, in different proportion to its variation from normal.

As a rule the movements of the eye are neither unusual nor difficult. The ability to look at a bright object which appears suddenly within the field of view is one of the earliest forms of motor organization to be achieved, and it is retained long after the ability to learn new and complex forms of reaction is lost. A patient naturally looks at a suddenly appearing object when he could otherwise learn the new reaction only imperfectly and with an enormous waste of time.

While eye movements are associated very closely with the most complex mental activities it is a fact they are in a manner peculiar to themselves inaccessible to subjective observation. Even well trained observers fail by introspection to discover some of the facts of eye movements which are most conspicuous in the photographic records.

Ordinarily in man, eye movements are usually involuntary and unconscious. They are essentially a part of the mechanical preadjustments of vision, and consciousness is concerned with the results rather than with the preadjustments. They may at times be consciously initiated, but once begun they are entirely withdrawn from conscious control. This prevents both arbitrary

* Read before The Kankakee State Hospital Medical Society June 10, 1912.

modifications and successful simulation of pathological symptoms. Relative uniformity in previous training gives unequaled opportunity for legitimate comparisons between different persons. Probably no other reaction is common to so many different persons in so high a state of development. The nearest state of perfection is reached by the speech functions, but two gross differences exist which render generalization concerning them difficult. These differences are individual habits and training (A. L. Diefendorf).

In the movements of the eye we can assume not only an almost complete identity of practice but a general high degree of efficiency.

A few words as to the technique of recording eye movements. By using the corneal reflection as the registering medium, there is absolutely no discomfort to the patient and no unusual stimulus to excite him, while the real purport of the experiment can be disguised by instruction to the patient to read exposed letters, figures, words, etc., or to have his attention held by his trying to see objects on a black screen in front of him. I have applied the term nystagmic reinforcement to this method of detracting the patient's attention.

Certain variations in ocular movements are to be found. I quote the following classification mentioned by Diefendorf.

1. Variations as to the velocity of eye movements.
2. Variations as to the time reaction of eye movements.
3. Variations as to the pursuit reaction of eye movements.

As applied to cases of dementia paralytica observation shows that in the depressed phases the velocity of eye movements is diminished, while in the euphoric stage the movements are increased. There is an inter-reaction between these automatic movements which have been found to be secondary and the interaction of the higher nervous centers which are primary. Also that the secondary automatic movements increase their velocity when the interaction of the higher centers is lessened. Advanced dementia paralytica has curious fixations breaking the normal movements of the eye at irregular points.

Fatigue acts as a factor in the variations in the velocity of eye movements also.

In regard to time reactions:

The adequate eye reacts not only in a definite direction but it is also of definite extent. Reaction time is measured from the beginning of the movement. The beginning of an eye movement is really only the initial phase of a movement of definite direction and extent.

The pursuit reaction involves more extensive psychomotor elaboration than any other ocular reaction known. As quoted by Dodge, the true pursuit eye movements are totally different in function and character from the rapid reaction movements of the eyes by which the peripheral objects of interests are fixated. Rapid movements are relatively constant in duration and constitute moments of practical blindness. The reason for this is not known, but it seems to be caused by fatigue of the intrinsic eye muscle.

Of no mean import are the motor changes in the pupil.

Early in the disease these morbid changes are generally temporary, and even if there is not a return to the normal they show by giving place to disturbances of an opposite kind that they may be transitory and independent of any destructive lesions.

Of the most important pupillary changes to be noted during the initial stages of this disease is that of the Argyll Robertson pupil phenomenon. This consists of the preservation of the reaction of the pupil to accommodation but not to light. Very often the pupils respond to the stimulus of light by a reaction which is merely slower and weaker than normal, or they may be absolutely fixed. Tranzie quotes cases where pupil undoubtedly may disappear and reappear in the course of general paralysis as it has been observed to do in tabes dorsalis. A good method of carrying out this examination consists in increasing and diminishing a steady flame in fixed position which the examiner controls by means of a key without making movements that tend to cause alteration of the accommodation.

Ofttimes one finds that the pupils are symmetrical as in normal individuals, but in consequence of a difference in the reactivity, a momentery asymmetry is produced during the examination, as it is noted that with each change in the light one pupil reacts much sooner than the other.

More often the asymmetry of the pupils is permanent, and in these cases there is more or less complete immobility present gen-

erally in the dilated pupil. Myosis is somewhat frequent in the initial stages of this disease.

During the latter stages of disease mydriasis is more frequent, and it may be found in patients who early in the disease have exhibited a very distinct myosis.

Certain variations have been mentioned, namely, those in which there is an inversion of the pupillary reflex to light whereby diminution of the intensity of the luminous stimulus causes contraction instead of dilatation (Raggi). This may present itself fallaciously when the true reaction is so momentary as to escape observation.

There are varieties in the form of the pupil often seen in cases of general paralysis, for example, oval or polygonal. Ordinarily these are dependent upon that of the sympathetic, which does not apparently take part in the morbid degeneration process.

Myosis, expressive of third nerve hyper-activity, is seen towards the beginning of the disease and in the sthenic cases; or in other words during the irritative stage of general paralysis, while mydriasis which expresses defective motor oculi action is more common in the terminal stages of exhaustion and in cases that run a rapid course. The lesion is usually of three types:

1. The irritative.
2. The paralytic and
3. The destructive.

It is almost always limited to the third cranial nerve which supplies the intrinsic muscles of the eye. The other nuclei may be affected but not so frequently as the third nerve. Siemerling and Boedeher record cases of paralysis of the intrinsic nerves with atrophy of the corresponding nuclei. At the Kankakee State Hospital cases have been noted presenting this phenomenon.

Out of 314 cases examined, Sprengler reports 62 cases in which pupils are equal and of normal size, bilateral myosis in 53 cases, bilateral mydriasis present in 18 cases, unequal pupils in 181 cases.

In 265 cases reaction was:

Normal in 53 cases.
Sluggish in 90 cases.
Absent on one side in 8 cases.
Absent on both sides 112 cases.
Paradoxical 2 cases.

Personally I have found in 150 cases examined normal reaction in 15 cases.

Sluggish 63 cases.

Absent reaction on one side 2 cases.

Absent reaction on both sides 70.

Of course these examinations were made at various stages of the disease which may account for the abrupt variations in reactions.

Ophthalmoscopic examination of the eye shows edema and congestion of the retina, neuro-retinitis, slight haziness of the optic disk, but not associated with a marked swelling and disturbances of retinal circulation, optic atrophy, which is shown by a pale disk somewhat blue-gray color, absence of retinal vessels on its surface. Associated with this is a contraction of these vessels. Cupping of the optic disk with sloping sides instead of abrupt sides as normally and disk area is contracted to a marked degree. Choroidal infiltration, some pigmentary deposits. At first the optic disk is red, then hazy or opaque and later yellowish-white. Retinal hæmorrhages may occur. Blindness may occur or a quivering of objects called metamorphopsia on which the patient complains.

To summarize we find that certain pupillary changes are found in general paralysis which can be determined upon by careful observation. Among those most prominent are fixed dilated pupils, irregular pupils and the variation in time pursuit and velocity reaction. That certain anatomical changes are also present has an important bearing.

Notes and Comment.

Mental Healing in Fact and Fiction.—The cure of disease by treatment of the mind has always been an important resource of the physician. Yet so unconscious has he been of his mighty power in this direction as to have been practically unwitting of his weapon. Not until a new school or cult has sprung up under the banner of "psychotherapy," has been revealed a secret carried so long and with so little assumption. But acknowledgment must be made to the disciples of psychotherapy that an idea or plan is crystallized under the magic influence of a resounding title, even though its vogue may be temporary. Dr. Walsh's new and pretentious volume on "Psychotherapy" * will do much to place this therapeutic method in its proper relation to practice. It is complete, exhaustive and well-considered. Dr. Walsh traces mental healing from its apocryphal origin, and cites its earliest historical uses. Among these is the experience of Erasistratos with the son of Seleukos: "While Erasistratos was feeling his patient's pulse, the stepmother of the young prince entered the room. She, the second wife of his father, was young and handsome, and Erasistratos noted that there was great perturbation of the pulse as soon as the stepmother came in. He correctly surmised that the young man was in love with the lady and that his illness had been occasioned by the feeling that his love was helpless."

Charles Reade has utilized this principle in one of the experiences of Margaret, a heroine said to rank with Juliet and Romola as the three greatest feminine creations of fiction. In penury and stress Margaret assisted her aged father, a physician, with sublime loyalty, and in their wanderings, came upon the invalid daughter

* *Psychotherapy,* including the history of the use of mental influence, directly and indirectly, in healing, and the principles for the application of energies derived from the mind to the treatment of disease. By James J. Walsh, M. D., Ph. D., Dean and professor of functional nervous diseases and of the history of medicine at Fordham University School of Medicine. New York and London, D. Appleton & Company, 1912.

of the Mayor of Rotterdam, whom all "the learnedst leeches" had seen, and "bettered her naught." "One skilled wight saith spleen; another, liver; another, blood; another, stomach; and another, that she is possessed; and in very truth, she seemeth to have a demon; shunneth all company; pineth alone; eateth no more victuals than might diet a sparrow. Speaketh seldom, nor hearkens them that speak, and weareth thinner and paler and nearer and nearer the grave, well-a-day."

"Sir," said Margaret, "an' if you take your velvet doublet to half-a-dozen of shops in Rotterdam and speer is this fine or sorry velvet, and worth how much the ell, those six traders will eye and feel it, and all be in one story to a letter. And why? Because they know their trade. And your leeches are all in different stories. Why? Because they know not their trade. I have heard my father say each is enamored of some one evil, and seeth it with his bat's eyne in every patient. Had they stayed at home, and ne'er seen your daughter, they had answered all the same, spleen, blood, stomach, lungs, liver, lunacy, or, as they call it, possession. Let me see her. We are of a sex and that is much."

So, "Doctor" Margaret saw the patient, and after a few preliminary questions told her a love story. On another visit she keenly watched what topics interested her, and found there was but one. Margaret prevailed upon the mayor to pay all his people their salaries in his daughter's presence and hers.

"Sir, how call you yon black-haired lad?"

"That is Ulrich, my clerk."

"Well then, 'tis he."

"Now Heaven forbid! a lad I took out of the streets."

"I held her hand, and with my finger did lightly touch her wrist; and when the others came and went, 'twas as if dogs and cats had fared in and out. But at this Ulrich's coming her pulse did leap, and her eyes shine; and when he went, she did sink back and sigh; and 'twas to be seen the sun had gone out of the room for her."

It is almost needless to add that the worthy burgomaster was forced to capitulate, and that the fair physician was no less successful in treatment than in diagnosis.

Perhaps the author had read of Erasistratos and the prince. More probably he was a keen observer of human nature, not witless of passing events. Alienist physicians, who are, of all, best

acquainted with the intimate relation of mental and bodily processes, accept the fact of history and the fabrication of romance, but they may hesitate to erect an eidolon of "Psychotherapy" as the supreme power of the healing art. It is too heedless of modern advance and sends us scuttling back to the days of the Asclepiadæ.

M.

Patients with Symptoms of Insanity Who are not Insane.—In the Tenth Annual Report of "Pavilion F." of the Albany Hospital the attending physician Dr. J. Montgomery Mosher with his accustomed vigor discusses the condition of a large class of patients coming to the hospital for treatment and presents his views as to the nature of the diseased condition from which they apparently suffer. He generalizes from the experience he has had with nearly twenty-five hundred patients during the past ten years and declares that experience has shown in their study the gradual evolution of the working hypothesis that while they presented symptoms of insanity they were not actually insane. Observation of these patients has convinced him that there is no dividing line between delirium and insanity and that a prompt, definite conclusion may not be reached as to whether an individual patient is to be placed in one class or the other. In fact he believes that many, perhaps the majority, of these patients represent an intermediate group in which symptoms of delirium are mingled with those of insanity in such combination as to leave doubt of the predominating element. Although these patients present symptoms of insanity, they are not necessarily insane. He finds it difficult to attach an appropriate name to the condition, but prefers not to call it one of insanity. He believes that the symptomatic classification of mental states is unsatisfactory because there is absolutely no reason why one person should be excited or another depressed. The common factor in the disease of each is an alteration of personality. Attempts to classify the insane according to their personality and to look behind the symptoms to individuals are equally difficult. It might be better to speculate "why one man is a Republican and another a Democrat, or why one boy becomes a merchant and another a priest." The effect of such theoretical inquiries has been to assume an intrinsic defect of the original organization and to lead the physician to anticipate future

attacks. This unfavorable prognosis is not justified in many cases because they do not have recurring attacks. They get well and remain so. He adds:

When the first year's work was completed, it became necessary to present a statistical summary, and tables, then generally accepted by alienist physicians, were adopted. The phrases "primary dementia," "confusional insanity," "melancholia," "mania" and "acute delirium," were placed in a group which was to include all cases who presented prospect of recovery. By "primary dementia" was understood a condition of apathy and torpor of varying degree; by "confusional insanity" (a more euphonious phase than "hallucinatory confusion"), a state of confusion with disturbances of the special senses, and moderate defect of consciousness; by "mania," mental and motor activity, restlessness and excitement; by "melancholia," depression of spirit; and by "acute delirium," a state of extreme physical prostration with involuntary and excessive activity of the muscles, hallucinations of the special senses and obliterations of consciousness. It was soon determined that these were not different diseases, but different manifestations of the same disease, or condition, whatever it might be, and that it was difficult in some cases to decide which designation should be used. It is quite apparent now that all of these patients are cases of exhaustion, associated with perverted mental action, in which the abnormal mental state is represented by stupor, confusion, excitement, depression or delirium, or some combination of these. One manifestation is common to all: physical prostration. They are really cases of acute physical disease with exaggerated or prominent mental symptoms. The mental symptoms are the manifestation of perverted action of the brain, due to abnormal conditions of circulation and nutrition of that organ. Strictly speaking this is not insanity. The disorder occurs in many persons of excellent personal and family antecedents. It is not necessarily due to dissipation or other vicious habits; on the contrary it follows too often hardships and privation which excite compassion rather than criticism. The common struggles of life are often too severe. The father whose limited income is insufficient, and the mother whose wearying toil surpasses endurance are brought to the hospital emaciated, prostrated, and in states of collapse and delirium, resulting from inordinate expenditure of strength, insufficient food and rest. Nor is a disaster of this kind limited to adult life. The psychology of adolescence is one of the most important problems to be met by parents, educators and neurologists. A surprising number of patients between the ages of fifteen and twenty-five have been received in deplorable condition, the more to be regretted as occurring when life should be brightest and happiest and most alluring. The fortunate may contemplate with pity the man or woman whose youthful days have been spent in sickness and misery, who has never had the enjoyment that comes without responsibility.

Adolescence is the preparatory period when the young man or woman is emancipated from the control and guidance of parents to meet strangers

in the rivalry and competition which constitute the so-called "struggle for existence." The child who has had all problems solved without personal concern, and whose tendencies, temperament and desires have been controlled and directed, is confronted by conditions entirely novel. Whether in professional or commercial life he meets others whose outlook, tastes and viewpoint are different, and he is obliged to adjust himself to a new environment, often changing with kaleidoscopic quickness. Physically and mentally he is to some extent prepared by excessive vitality. The bodily functions react quickly and vigorously, appetite and nutrition are sustained and sleep is refreshing. The energy and recuperative power of youth are proverbial. Two qualities only are wanting—experience and discretion, and upon the lack of these disaster too frequently follows. The immediate causes are not always apparent, though overstudy and overwork are occasionally alleged. In many cases thorough inquiry leaves only the supposition that there has been a failure of adjustment to new conditions, that rapid growth has resulted in want of balance. The nervous disorders of youth do not always require hospital treatment. Hysteria, chorea, convulsions and other conditions included under the general term "nervousness" are common in general medical practice. Mental functions are involved in greater or less degree, and at times are dominating. Then the patient seeks relief in the hospital. The symptoms vary, but group themselves in two classes, in one of which excitement prevails, in another, stupor. In the former group there are great restlessness and incoordinated activities, for which the time-honored term "mania" may be used. This may reach a high grade, with disturbances of the special senses and partial or complete obliteration of consciousness, constituting actual delirium. The cases of stupor are profoundly lethargic, silent, inactive and inclined to resist care. They move about automatically. Occasionally there are combinations of all forms, with sudden impulsive and even dangerous acts.

The study of these adolescent cases has had great impetus in recent years by the importation from Germany of the term "dementia præcox," a raucous phase and difficult of interpretation. It carries with it the assumption of incurability, which has been shown to be unwarranted, as many patients have recovered health and have remained well. Our experience justifies the faith that the prospect for recovery is good in all patients who do not present congenital defect or pronounced hereditary taint. Treatment in the hospital represents an incident in the career of the patient, in which active symptoms called for the resources of an institution, and our patients have returned home, with a warning to the parents and with instruction as to conservation of health and restraint of endeavor. They have learned by the event that understanding of the mental and physical resources is essential to the conduct of business, indulgence in recreation and the successful ordering of life. The fact that these patients recover health indicates that the disease might have been prevented. The training of children, however, requires knowledge, discernment and impartiality not universally possessed by parents, and the severe lesson must be had.

We thus become more and more reluctant to use the word insanity with its unpleasant insignificance. We would not say that certain cases of insanity are restored, but that there is a group of cases of physical exhaustion with prominent mental symptoms for whom recovery is to be expected. The mental state may be described as modified delirium or analogous with delirium, and should carry no unpleasant imputation. The patients require hospital treatment and the duty of the hospital is clear. Such patients should be received without question or formality, and placed under restorative measures until, beyond any question, it is determined that the affection is permanent and the mind destroyed. Then the question of insanity may be discussed.

The Verdict in the Case of John Schrank.—It will be remembered that Ex-President Roosevelt was shot, but not seriously injured, on the evening of October 14 last, in the city of Milwaukee.

His assailant, John Schrank, it was shown, had followed Mr. Roosevelt about the country seeking a favorable opportunity to shoot him. On the evening of October 14 last, just as Mr. Roosevelt was about to leave his hotel in an automobile to go to a political meeting where he was to deliver an address, Schrank, standing in a crowd which had collected in front of the hotel, and within a few feet of the automobile in which the Ex-President was, fired a pistol at him. The bullet embedded itself in the muscles and tissues of the chest wall, after passing in an upward and inward direction for about four inches from the point of entrance, which was one inch below and one inch to the right of the right nipple.

We are under obligations to Dr. Richard Dewey, of Wauwatosa, Wisconsin, chairman of the commission appointed to examine Schrank, for an opportunity to read the report of the examination, and also the various written statements of Schrank. Did space permit, the documents in the case as well as the report would be published.

Judge A. C. Backus, of the Municipal Court of Milwaukee, before whom Schrank was brought, appointed a commission of five alienists to examine Schrank and determine his mental state.

On November 23 the commission reported to Judge Backus that the unanimous opinion of its members was that Schrank was insane.

The questions on which the commissioners were instructed to

report were: 1. Is the defendant at the *present time* insane? 2. Is the defendant in such condition of mind that he is able to advise with counsel and conduct his defense?

It will be remembered that Schrank, when arrested, expressed the belief that Colonel Roosevelt had guilty knowledge of President McKinley's death and that "*a man who wanted a third term had no right to live.*" His examination developed the fact that a whole body of systematized delusions had grown up in his mind about "sacred traditions" that must be defended with life if need be, and that Colonel Roosevelt, like Caesar, was ambitious and deserving of Caesar's fate.

The summary and conclusions of the commissioners are as follows:

Summary.—We have limited the scope of our investigation and inquiry to the questions we have been asked to determine and summarize briefly: John Schrank, aged 36 years, single, bar-keeper and saloon-keeper, and of limited educational opportunities, with insane heredity, was born in Bavaria, March 5, 1876, and came to this country twelve years later. Apparently he developed normally, but early in life showed a particular fondness for the study of the histories of this and other countries, and also for the composition of poetry. In the course of his studies of history, and especially of the constitution of the United States and of Washington's Farewell Address, he developed the belief that this republic is based on the foundation of four unwritten laws, to which he also refers as the "Four Sacred Traditions." . . .

In 1901 he had a very vivid dream, which at that time he recognized as only a dream [of seeing McKinley in his coffin point to a person as his slayer who wore the aspect of Roosevelt], the memory of which has frequently recurred to him ever since. In the course of the pre-convention campaign [in 1912] the belief that the four unwritten laws of the "Four Sacred Traditions" are in danger comes to him, and later, on the nomination of a presidential candidate by the Progressive Party, he begins to attach particular significance to the dream he had in 1901. He meditates deeply on this and, in the course of a few weeks, there appears to him a "vision" accompanied by a voice which, in effect, commands the killing of the man through whose acts and machinations he believes the sacred traditions to be endangered, and who he also believes is, through a conspiracy, concerned in the assassination of a former president. He continues to ponder on the subjects set forth, awaiting the appearance of a person who would carry out the act suggested by the vision, but shortly arrives at the conclusion that he, and not someone else, is the chosen instrument. He at once sets forth to accomplish his mission, following his victim until he finally comes up with him.

During his examination as to his sanity, he conducts himself in perfect accord with his beliefs, and expresses a regret at not having died at the hands of the mob if such a result would have proved a benefit to his chosen country.

Conclusions.—1. John Shrank is suffering from insane delusions, grandiose in character, and of the systematized variety.

2. In our opinion he is insane at the present time.

3. On account of the connection existing between his delusions and the act with which he stands charged, we are of the opinion that he is unable to confer intelligently with counsel or to conduct his defense.

RICHARD DEWEY, M. D., Chairman.
W. F. BECKER, M. D.,
FRANK STUDLEY, M. D.,
D. W. HARRINGTON, M. D.,
WILLIAM F. WEGGE, M. D.,
Commissioners.

In accordance with the finding of the commission, Judge Backus has ordered the commitment of Schrank to the Northern State Hospital for the Insane, near Oshkosh, Wis., and he was taken to the institution November 25.

The *Journal of the American Medical Association*, in commenting upon the case (December 7, 1912, p. 2071), says:

The entire procedure is in gratifying contrast to some of our "celebrated" murder trials and is an unanswerable reply to the argument that such spectacles are necessary to protect individual rights or are unavoidable under our laws. Judge A. C. Backus, the trial judge, deserves the approbation of all good citizens, and especially of all practitioners of medicine and law, since it is on these two professions that the scandal and disgrace of the abuses of expert testimony have fallen most heavily.

On account of the interest shown in the case, some information regarding the Wisconsin law would not be amiss. Judge Backus' action was taken under Section 4700 of the revised statutes of Wisconsin. This law was enacted in 1898, and in view of its satisfactory provisions, it is surprising that it has not been used heretofore by Wisconsin judges. Apparently Judge Backus is the first to apply it. This section reads: "When any person is indicted or informed against . . . if the court shall be informed in any manner that there is a probability that such accused person is at the time of his trial insane, and thereby incapacitated to act for himself, the court shall in a summary manner make inquisition thereof by a jury or otherwise, as it deems most proper, and if it shall be thereby determined that such accused person is so insane, his trial for such offense shall be postponed indefinitely and the court shall thereupon order that he be confined in one of the state hospitals for the insane."

A law was also enacted in 1911 (Chapter 221, Session Laws), providing

that, even in case the accused is found insane at the time of trial and sent to an asylum, if he subsequently recovers and is returned for trial on the original charge, the presumption of sanity at the time the offense was committed shall prevail, unless a reasonable doubt of his sanity is raised in the minds of the jury. In the Schrank case the proof of guilt was absolute, and the only possible defense was insanity.

It should be noted that the inquiry regarding Schrank's sanity was not a part of his trial for attempt to kill, or in any way a substitute therefor. Schrank has been declared insane by the court, and ordered confined to an asylum. He is still in the custody of the court and cannot be released except by order of the court, and then only if he is found sane, in which case he will be brought back to the court for trial for his offense, for which he is still amenable to punishment. This plan avoids putting lunatics on trial on criminal charges, as the inquiry precedes the criminal trial. It also prevents the possibility of a short confinement in an asylum being substituted for a severer punishment, as has too often occurred. If Harry Thaw were adjudged sane, he would be a free man. If Schrank is at any time declared sane, he will still have to answer for his crime. We repeat, Wisconsin is to be congratulated on having such a law and such a judge.

ANNUAL MEETING OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—We have received the following announcement from the Secretary of the Association:

The next annual meeting of the American Medico-Psychological Association will occur at the Clifton Hotel, Niagara Falls, in Canada, June 10-13, 1913.

The Clifton is a splendid hotel located in a superb park on one of the most imposing sites in the world. Its spacious verandas command a vista of surpassing beauty and grandeur. Directly in front, beyond the undulating lawns dotted with trees and shrubs, is the wonderful Horseshoe Falls behind its cloud of mist, and just beyond to the eastward, the American Falls and the gorge of Niagara, hewn through the solid rock by countless ages of rushing torrents.

The Clifton Hotel management offers special and attractive inducements to the members of our Association and their friends, which will be given in detail in a later announcement. For the present it is sufficient to say that spacious accomodations are promised for the general sessions of our meeting and for all committees.

Arrangements are now being made for what we believe will be an exceedingly interesting programme, and it is hoped that every member of the Association will include our meeting and the wonders of Niagara in his plans for next June.

CHARLES G. WAGNER, *Secretary.*

BINGHAMTON, N. Y., October 1, 1912.

Book Reviews.

Practical Physiological Chemistry. A book designed for use in courses in practical physiological chemistry in schools of medicine and science. By PHILIP B. HAWK, M. S., Ph. D., Professor of Physiological Chemistry and Toxicology in the Jefferson Medical College of Philadelphia. Fourth edition revised and enlarged. (*Philadelphia: P. Blakiston's Son & Co., 1912.*)

This volume of four hundred and fifty odd pages bridges the gap existing between physiological chemistry as taught in the chemical laboratory and in the courses of instruction in clinical medicine. Methods are given for the determination of the various substances found in the body fluids and tissues without, which would be in a book of this character undesirable, reference to the pathological conditions associated with such substances which may be varied. The prevailing scheme of presentation is a general introduction to and appropriate discussion of each main subject, following which comes a section of detailed directions for laboratory experimentation. The illustrations are of the character usually met with in this type of book.

The subject of the proteins and their relations to those various processes through which they are rendered available to the human economy has been well presented considering the difficulty attached to this phase of physiological chemistry. In the chapter on blood and lymph considerable space is devoted to histological considerations not properly a part of physiological chemistry. The chapter on nervous tissue might to great advantage be augmented by more information concerning the group of lipins, a class of substances which recent research reveals to be of the greatest importance in the metabolic processes of the central nervous system. On page 269, the great importance of the detection of choline in the cerebrospinal fluid in certain cases of degenerative diseases of the nervous system has not been substantiated by more recent research. The increase of choline in cerebrospinal fluid under any conditions in more than negligible quantities has not been conclusively demonstrated. In connection with the nervous tissue more of the chemistry of the cerebrospinal fluid itself might be advantageously included since a more intimate knowledge than formerly of this fluid is now demanded of all medical students and practitioners. A full account of both quantitative and qualitative methods of urinary examination is given, and the author has accomplished well the task of keeping abreast of new methods. The volume is concluded by a brief appendix on solutions, reagents, etc., and a copious index. Aside from a few typographical errors, the physical make-up of the volume is well cared for and the book should well serve the purpose for which the author intended it.

BARNES.

Manisch-Depressives und Periodisches Irresein als erscheinungform der Katatonie. Eine Monographie von Dr. Med. Maurycy Urstein, Warschau. (*Berlin und Wien: Verlag, Urban & Schwarzenberg.*)

Urstein's book consists of 659 pages and includes the records of 30 cases which were observed in the hospital Schweizerhof in Zehlendorf. Some of the patients were admitted to that institution in 1867, 1874, 1876, and others later. The patients were studied by many observers, and apparently Urstein had only to do with the interpretation of the clinical pictures. The fact that the clinical histories were poorly recorded *cannot be doubted.* In reading over the case records, one feels that only a superficial observation of the symptoms was made, and without any attempt to analyze the patients' subjectivity, the latter so important in understanding functional psychoses. The whole material is a heterogeneous undigested psychiatric mass. and, indeed, upon such feeble documentary evidence the author desires to upset the teachings of the Munich school, and revolutionize modern psychiatry.

In brief, the author's thesis is as follows:

He identifies katatonia with dementia præcox, and prefers to use the former because there are many cases which, in spite of long duration of the disease, present no evidences of emotional or intellectual deterioration; nevertheless, there was no difficulty to demonstrate symptoms which the author recognized as katatonic. Again, he knows of psychoses occurring in the fourth decenium or still later, that developed typical katatonic terminal states. *He emphasizes that dementia præcox may begin with periodic attacks, which may simulate manic-depressive insanity; that the patient may recover, but later katatonic manifestations are displayed, and finally dementia ensues.* These lucid intervals may be of long duration—sometimes over 30 years—later the attacks may recur, ten or twelve, and ultimately dementia sets in. In katatonic states, depression, mania, hypomania, and mixed conditions are frequently observed. Convulsions may occur, and in 3½ per cent of his cases such symptoms were noted. However, his clinical records are not at all convincing that the cases really belonged to the group of dementia præcox. The author is of the opinion that dementia præcox is not an organic disease, but is probably due to anaphylactic auto-intoxication, resulting from abnormal functions of the genital organs.

Urstein believes that errors in diagnosis of katatonia are frequently made; he holds that this disease can be recognized in its early stages by one particular symptom, intrapsychic ataxia, to which Stransky referred many years ago. In the present state of our knowledge of psychopathology, it is very difficult to conceive how a mental infirmity can be recognized by one symptom alone. It is generally conceded that a psychiatric diagnosis must be made upon the personality of the individual, the development of the disease, the settling of symptoms with their underlying mechanism and the clinical course of the disease picture. It would be a very easy matter if we were in a position to label psychoses by one particular sign

without taking into consideration the individual psychology of the patient. Who does not know that psychoses may recover and still not be of the manic-depressive group; or functional mental diseases may pass into dementia and not be classified with schizophrenia? Again, it is well known that there are clinical pictures in which a remission of symptoms may be noted for a number of years, and later mental deterioration may set in, nevertheless showing no relation to manic-depressive insanity or dementia præcox. The trained observer in psychiatry encounters such types of psychoses, and he fully realizes the limitation of the psychiatric classification. If we were to force our disease pictures into certain groups without careful analysis of the symptoms, psychiatry would make no progress.

The reviewer does not wish to be too severe on the author, but he feels that his argument is erroneous, and, furthermore, the clinical material is not strong enough to prove his thesis. The book cannot be recommended to the beginner in psychiatry for it would make rather unwholesome intellectural pabulum; and unquestionably the advanced student in psychiatry will find his time more profitable in perusing books of more timely import.

M. J. Karpas, M. D.

ENTRANCE WEST HOUSE OFFICE AND BATH HOUSE PSYCHOPATHIC HOSPITAL

THE MILWAUKEE SANITARIUM

ESTABLISHED IN 1884

FOR MENTAL AND NERVOUS DISEASES

Located at Wauwatosa, (a suburb of Milwaukee) on C. M. & St. P. Ry., 2½ hours from Chicago, 15 minutes from Milwaukee, 5 minutes from all cars. Two lines street cars. Complete facilities and equipment, as heretofore announced.

New Psychopathic Hospital: Continuous baths, fire-proof building, separate grounds.
New West House: Rooms en suite with private baths.
New Gymnasium and recreation building: physical culture, new "Zander" machines, shower baths.
Modern Bath House: Hydrotherapy, Electrotherapy, Mechanotherapy.
28 acres beautiful hill, forest and lawn. Five houses. Individualized treatment.

RICHARD DEWEY, A.M., M.D., in charge. EUGENE CHANEY, M.D., WM. T. KRADWELL, M.D.
CHICAGO OFFICE: Venetian Building. Wednesdays 11:30 to 1 o'clock except July and Aug.
TELEPHONES: Chicago—Central 2856. Milwaukee—Wauwatosa 16.

GYMNASIUM LAWN MAIN BUILDING FOREST PATH

"BOURNEWOOD"

Dr. Henry R. Stedman

Receives **patients with nervous or mental diseases** for separate treatment or family care in hospital cottages. Number limited to fifteen. Cases of the alcohol or drug habit not received. P. O. address South St., Brookline. Nearest station, Bellevue, on the Providence Division of the N. Y., N. H. & H. R. R. Office in Boston: 48 Beacon Street. Daily from 11 to 1 except Tuesday and Saturday.

ESTABLISHED 1879.

Channing Sanitarium for Mental Diseases,

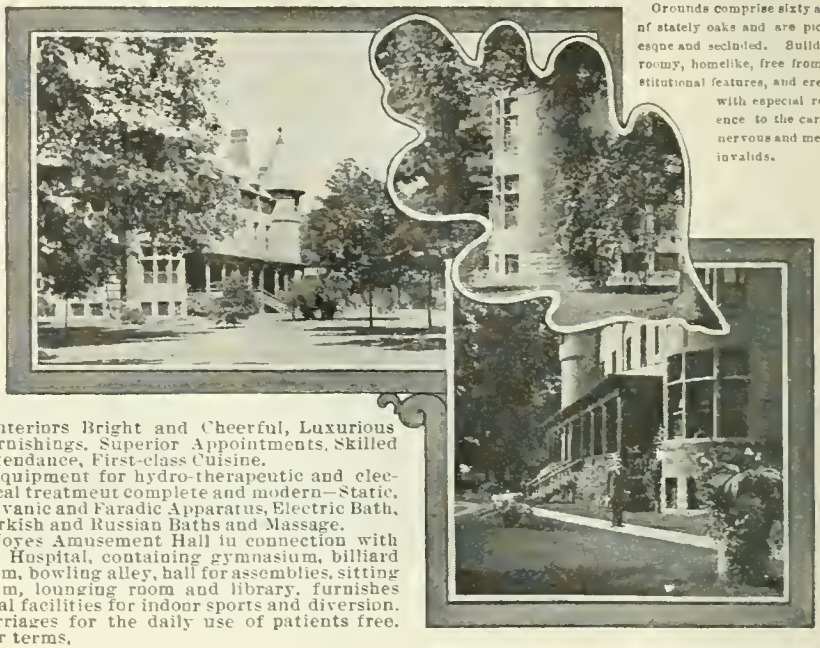
BROOKLINE, MASS.,

Corner Boylston Street and Chestnut Hill Avenue.

WALTER CHANNING, M. D. W. M. KNOWLTON, M. D.

OAK GROVE HOSPITAL

FOR NERVOUS AND MENTAL DISEASES.



Grounds comprise sixty acres of stately oaks and are picturesque and secluded. Buildings roomy, homelike, free from institutional features, and erected with especial reference to the care of nervous and mental invalids.

Interiors Bright and Cheerful, Luxurious Furnishings, Superior Appointments, Skilled Attendance, First-class Cuisine.

Equipment for hydro-therapeutic and electrical treatment complete and modern—Static, Galvanic and Faradic Apparatus, Electric Bath, Turkish and Russian Baths and Massage.

Noyes Amusement Hall in connection with the Hospital, containing gymnasium, billiard room, bowling alley, hall for assemblies, sitting room, lounging room and library, furnishes ideal facilities for indoor sports and diversion. Carriages for the daily use of patients free. For terms,

Address: DR. C. B. BURR, Medical Director, Flint, Mich.

Oconomowoc Health Resort

OCONOMOWOC, WIS.

Building new—absolutely fireproof.
Built and equipped for treating Nervous and Mild Mental Diseases.
Location unsurpassed.
Readily accessible.
Three hours from Chicago on C., M. & St. P. Ry.

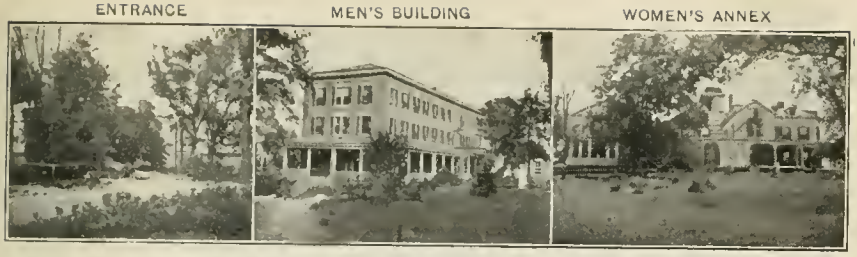
ARTHUR W. ROGERS, B.L., M.D., Resident Physician-in-Charge

THE JOHNS HOPKINS HOSPITAL BULLETIN

The Bulletin contains details of hospital and dispensary practice; abstracts of papers read and other proceedings of the Medical Society of the Hospital, reports of lectures, and matters of general interest in connection with the work of the Hospital. It is issued monthly. Volume XXIV is now in progress. The subscription price is $2.00 per year. (Foreign postage, 50 cents.) Price of cloth-bound volumes, $2.50 each.

Subscriptions and remittances should be sent to

THE JOHNS HOPKINS PRESS, BALTIMORE, MD.



RIVER CREST SANITARIUM

ASTORIA, L. I., NEW YORK CITY
UNDER STATE LICENSE

FOR NERVOUS AND MENTAL DISEASES

Home-like private retreat. **Alcoholic and Drug Habitues.** Beautifully located in a large park overlooking the City and the Sound. Easily accessible. DETACHED BUILDINGS for ALCOHOLIC AND DRUG HABITUES. Hydropathy, Electricity, Massage. Amusements. Arts and Crafts, Golf, etc. Terms moderate.

WM. ELLIOTT DOLD, M.D, PHYSICIAN IN CHARGE

New York Office, 616 Madison Ave. Hours, 3 to 4 daily. Sanitarium 'Phone, 820 Astoria

Philadelphia Office, Professional Bldg., 18th & Chestnut Sts. Hours, Fridays 2 to 3.

FARM COLONY AND SANATORIUM

BELLE MEAD, N. J.
UNDER STATE LICENSE

For Nervous and Mental Diseases, including committed and voluntary patients. **Alcoholic and Drug Habitues, and General Invalidism,** also a separate department for **Epileptics and Feeble Minded. Over 300 Acres** in a beautiful rural district with mountain views, about one hour from N. Y. City and Philadelphia. Full equipment, steam heat, pure water. Scientific treatment, including Electrotherapy, Arts and Crafts, Amusements, Tennis, Dances, etc.

Rates Very Moderate—$12.50 Per Week and Upwards

ADDRESS J. JOS. KINDRED, M. D., CONSULTANT; OR RESIDENT PHYSICIAN

New York Office: 616 Madison Ave., Telephone, 1470 Plaza. Sanatorium Tel., 21 Belle Mead

Philadelphia Office, Professional Bldg., 18th & Chestnut Sts. Hours, 2 to 3 Fridays.

Dr. Moody's Sanitarium, San Antonio, Texas

For Nervous and Mental Diseases, Drugs and Alcohol

Addictions. Six modern buildings with equipments and conveniences for proper classification and for genial home environments, comforts, and for rational scientific treatment, which is strictly along ethical lines. Location and locality ideal for health, rest and recuperation. Ten acres of lawn and shade, surrounded by beautiful parks.

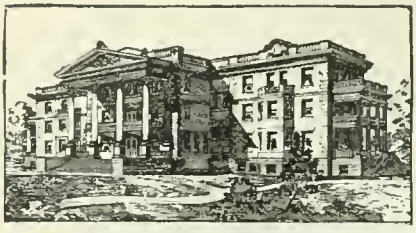
Address,

G. H. MOODY, M. D., 315 Brackenridge Ave.

(Formerly Assistant Physician to State Asylums at Austin and San Antonio, Tex.)

Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF



Nervous
and
Mental Diseases

New, Absolutely Fireproof Building.

BYRON M. CAPLES, M.D , Superintendent, Waukesha, Wis.

KENILWORTH SANITARIUM

(Established 1905)

KENILWORTH, ILLINOIS

Built and equipped for the treatment of Nervous and Mental Diseases. Approved diagnostic and therapeutic methods. Special system of ventilation. Rooms impervious to noise. Elegant appointments. Bath rooms en suite, steam heating, electric lighting, electric elevator.

RESIDENT MEDICAL STAFF:
KATHRYN T. DRISCOLL, M. D., Asst. Phys.
SHERMAN BROWN, M. D., Medical Supt.
SANGER BROWN, M. D., Chief of Staff

59 E. Madison Street CHICAGO, ILL.
Hours 11 to 1
Telephone Randolph 5794

C. & N. W. Railway
Six miles north of Chicago

"The House with the Facilities."

THE LORD BALTIMORE PRESS,

FORMERLY THE FRIEDENWALD COMPANY,

PRINTERS, LITHOGRAPHERS, AND BOOKBINDERS,

BALTIMORE, MARYLAND, U. S. A.

Intractable Coughs and Colds

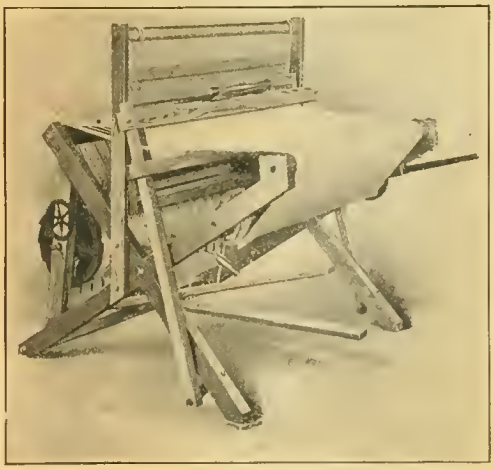
—owing their prolongation to constitutional or systemic weakness —are usually bound to continue until the nutrition and vitality of the whole body are substantially improved. The well-known capacity of

GRAY'S GLYCERINE TONIC COMP.

to spur physiologic processes, promote functional activity and restore the nutritional tone of the whole organism, readily accounts for the benefits that promptly follow its use in all affections of the respiratory tract.

¶ When local remedies fail, or at best give but temporary relief, "Gray's" can be relied upon to so reinforce the natural protective and restorative forces of the body that even the most persistent catarrhal diseases are quickly controlled and overcome.

135 Christopher St. THE PURDUE FREDERICK CO. New York



Keep Your Patients Busy

Looms For Rug and Lace Weaving

Basket Making Materials of All Kinds

CATALOGUES SENT ON APPLICATION

J. L. HAMMETT COMPANY

BOSTON, MASS.

The Chas. Willms Surgical Instrument Co.

HOSPITAL FURNITURE, RUBBER GLOVES,
SURGICAL INSTRUMENTS, ...
BEDSIDE TABLES, INVALID SUPPLIES,
RESTRAINT STRAPS, MICROSCOPES AND
ACCESSORIES. . . . . .

300 North Howard Street, · BALTIMORE, MD.

The American Journal of Insanity

The AMERICAN JOURNAL OF INSANITY, the official organ of the American Medico-Psychological Association, is now in its sixty-ninth volume. Its editorial control is in the hands of a committee of the American Medico-Psychological Association, consisting of HENRY M. HURD, M. D., and E. N. BRUSH, M. D., of Baltimore; G. ALDER BLUMER, M. D., of Providence, R. I.; J. MONTGOMERY MOSHER, M. D., of Albany, N. Y., and CHARLES K. CLARKE, M. D., of Toronto, Ontario, with the collaboration of other alienist physicians at home and abroad.

Communications for the JOURNAL, books for review and exchanges, should be addressed to Dr. EDWARD N. BRUSH, Sheppard and Enoch Pratt Hospital, Station A., Baltimore, Md.

The JOURNAL is published quarterly and the volumes begin with the July number. The subscription price is five dollars for the volume, except to members of the Association, who receive the JOURNAL for three dollars. Canadian subscriptions, five dollars and twenty-five cents; foreign subscriptions, five dollars and fifty cents. This includes postage.

Subscriptions, remittances and business communications should be sent to

THE JOHNS HOPKINS PRESS, BALTIMORE, MARYLAND.

The American Journal of Insanity

The AMERICAN JOURNAL OF INSANITY, the official organ of the American Medico-Psychological Association, is now in its sixty-ninth volume. Its editorial control is in the hands of a committee of the American Medico-Psychological Association, consisting of HENRY M. HURD, M. D., and E. N. BRUSH, M. D., of Baltimore; G. ALDER BLUMER, M. D., of Providence, R. I.; J. MONTGOMERY MOSHER, M. D., of Albany, N. Y., and CHARLES K. CLARKE, M. D., of Toronto, Ontario, with the collaboration of other alienist physicians at home and abroad.

Communications for the JOURNAL, books for review and exchanges, should be addressed to Dr. EDWARD N. BRUSH, Sheppard and Enoch Pratt Hospital, Station A., Baltimore, Md.

The JOURNAL is published quarterly and the volumes begin with the July number. The subscription price is five dollars for the volume, except to members of the Association, who receive the JOURNAL for three dollars. Canadian subscriptions, five dollars and twenty-five cents; foreign subscriptions, five dollars and fifty cents. This includes postage.

Subscriptions, remittances and business communications should be sent to

THE JOHNS HOPKINS PRESS
BALTIMORE, MARYLAND

Sub.
sent to

RC
321
A52
v.69
no.3
cop.2

American journal of
psychiatry

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY